

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
 - TEXT CUT OFF AT TOP, BOTTOM OR SIDES
 - FADED TEXT
 - ILLEGIBLE TEXT
 - SKEWED/SLANTED IMAGES
 - COLORED PHOTOS
 - GRAY SCALE DOCUMENTS
- (•) BLACK OR VERY BLACK AND WHITE DARK PHOTOS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

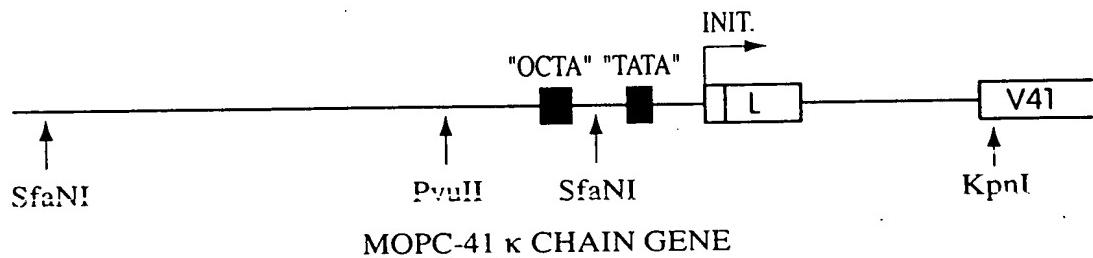


Fig. 1A

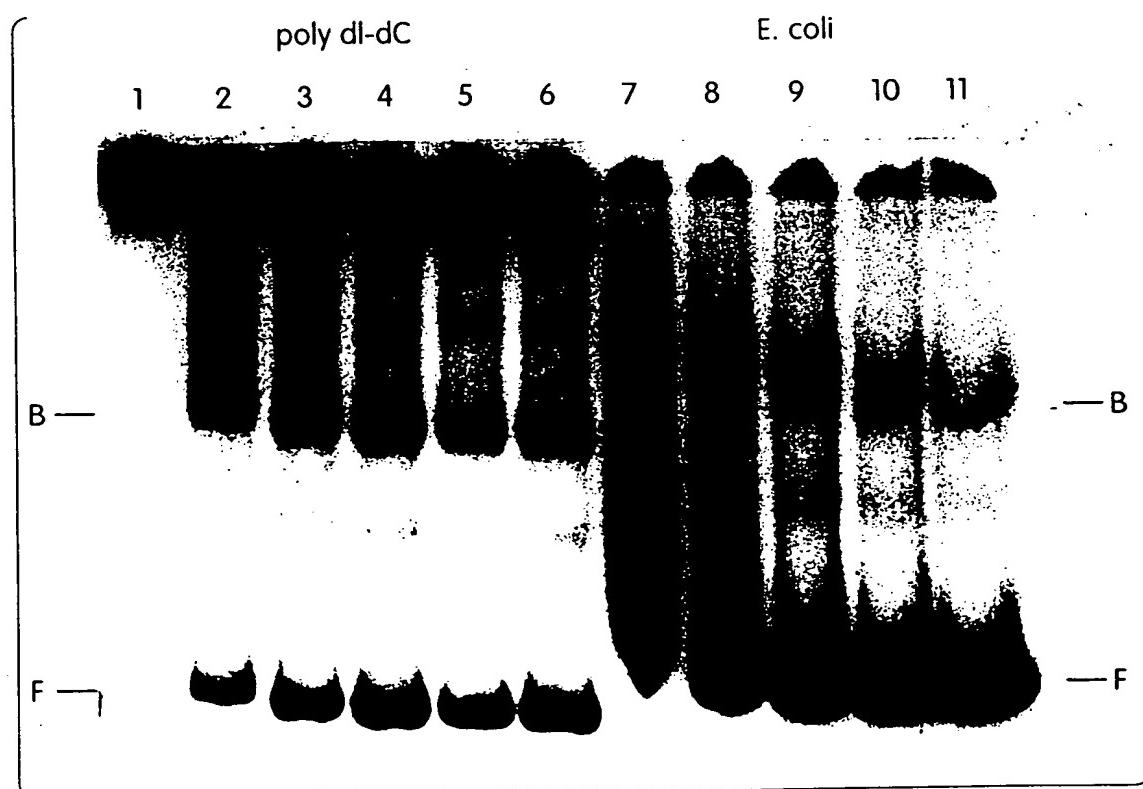


Fig. 1B

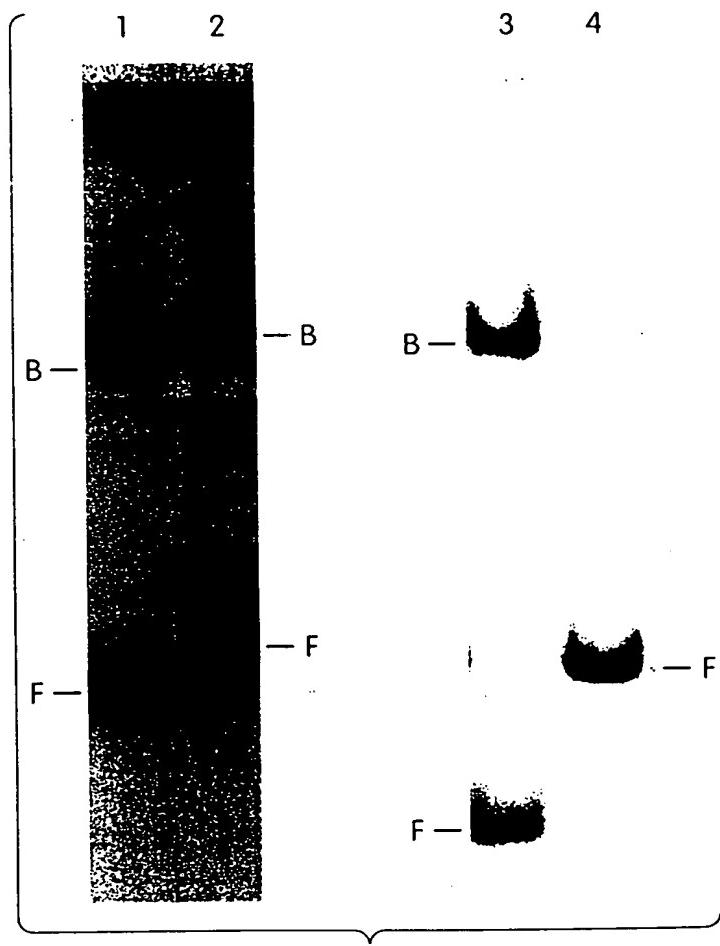


Fig. 1C

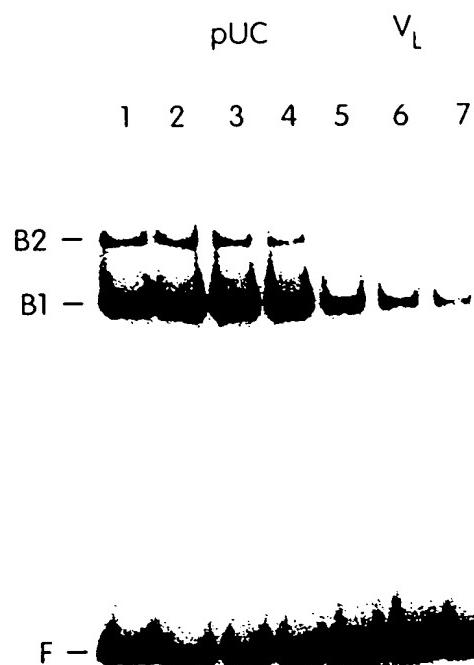
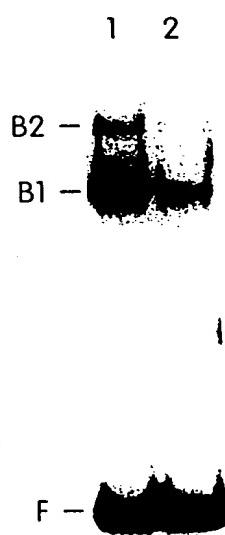


Fig. 2A



HeLa
Fig. 2B



Fig. 3

V_L coding strand (-66)

V_H non-coding strand (-50)

$J_H - C\mu$ coding strand (166)

* TCTTAATA ATTTGCAT ACCCTCAC

CGCACATG ATTTGCAT ACTCATGA

CCTGGGTA ATTTGCAT TTCTAAAA

Fig. 4A

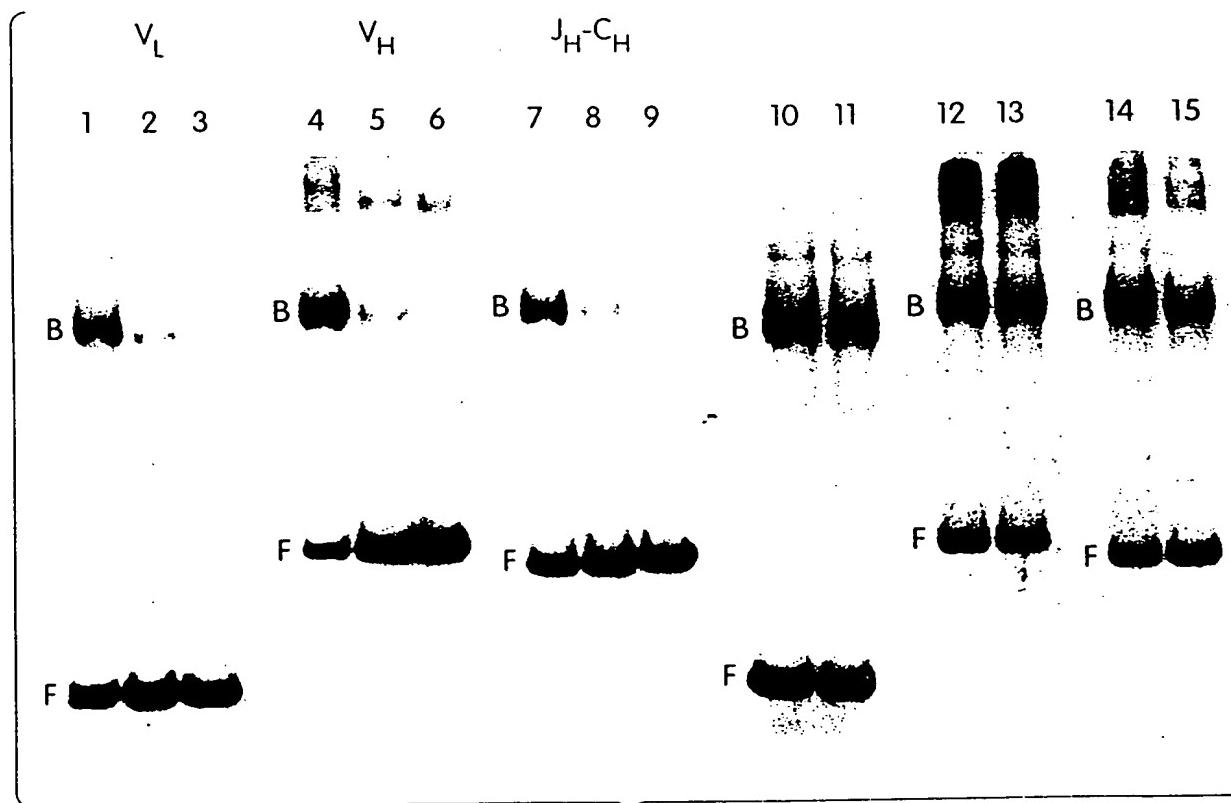


Fig. 4B

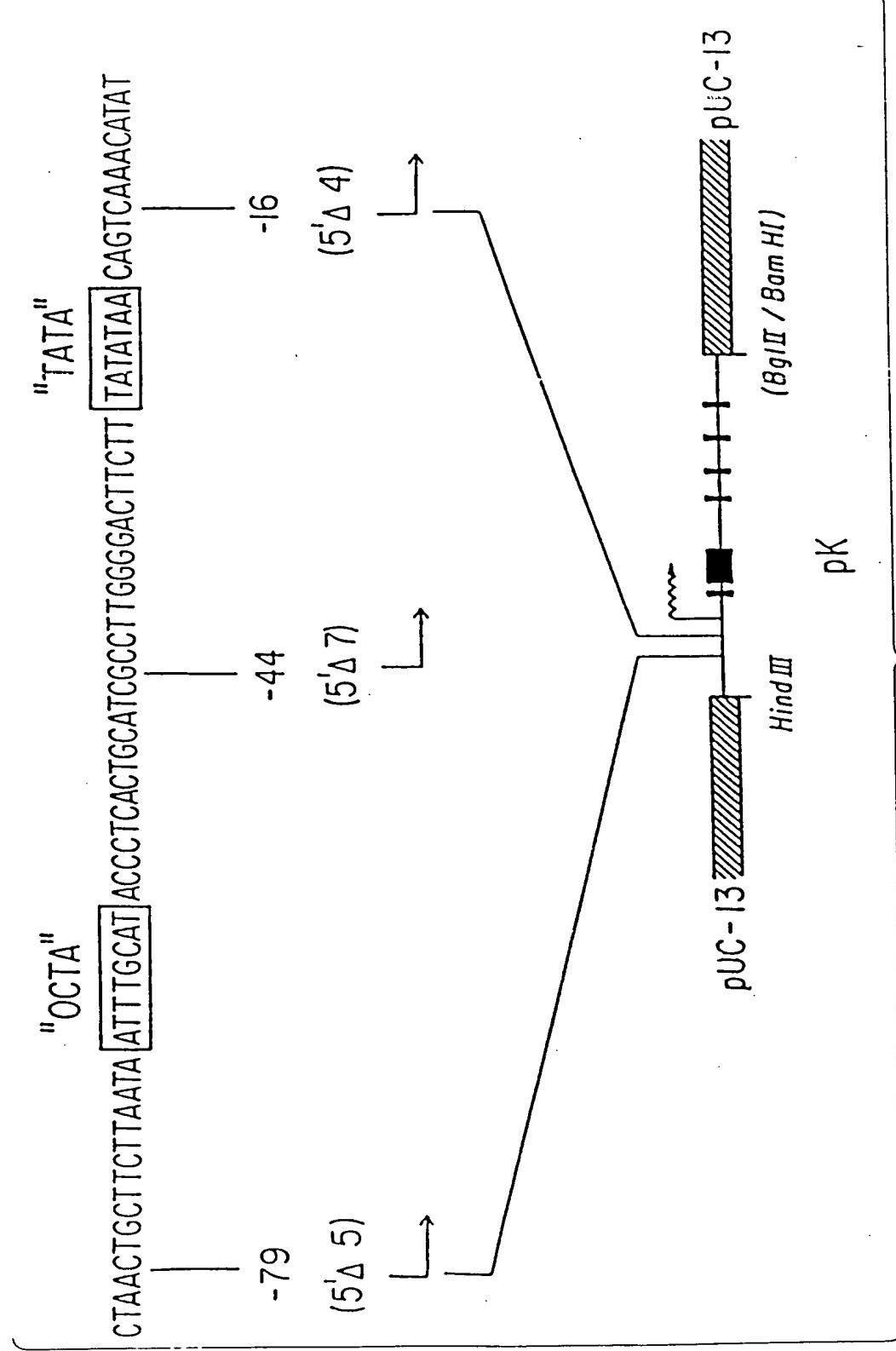


Fig. 5A

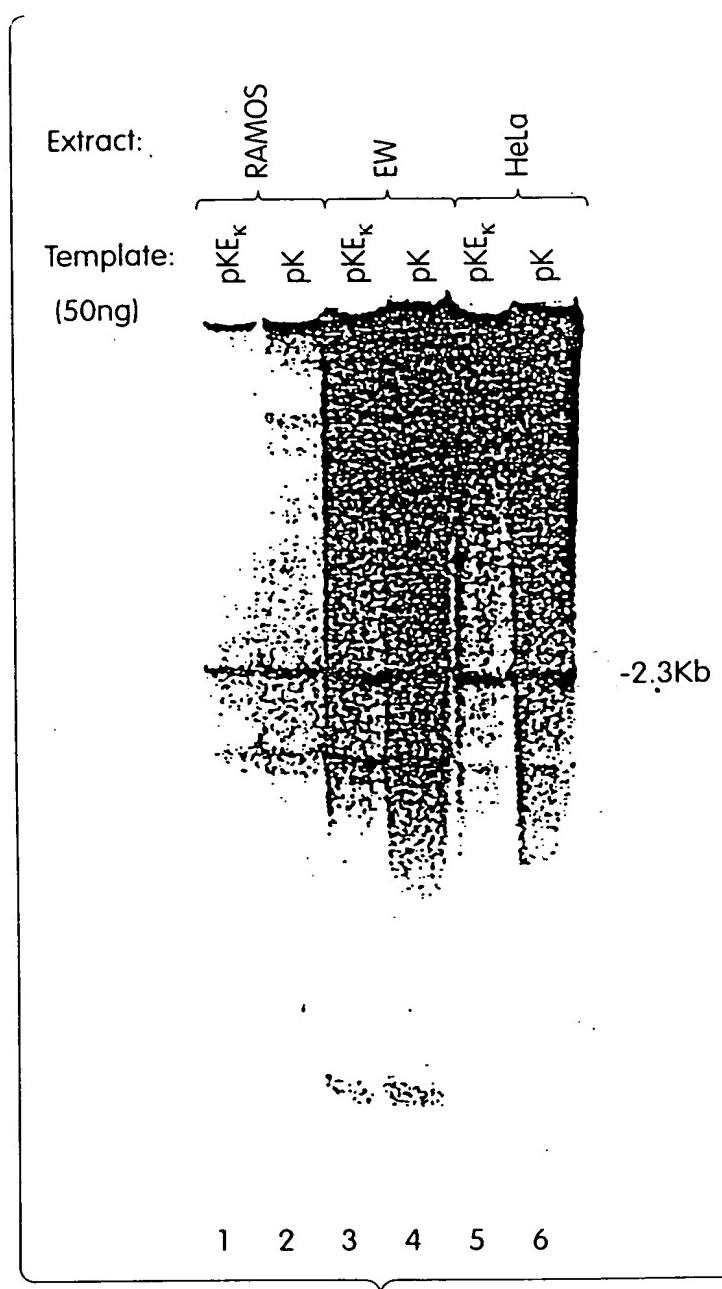


Fig. 5B

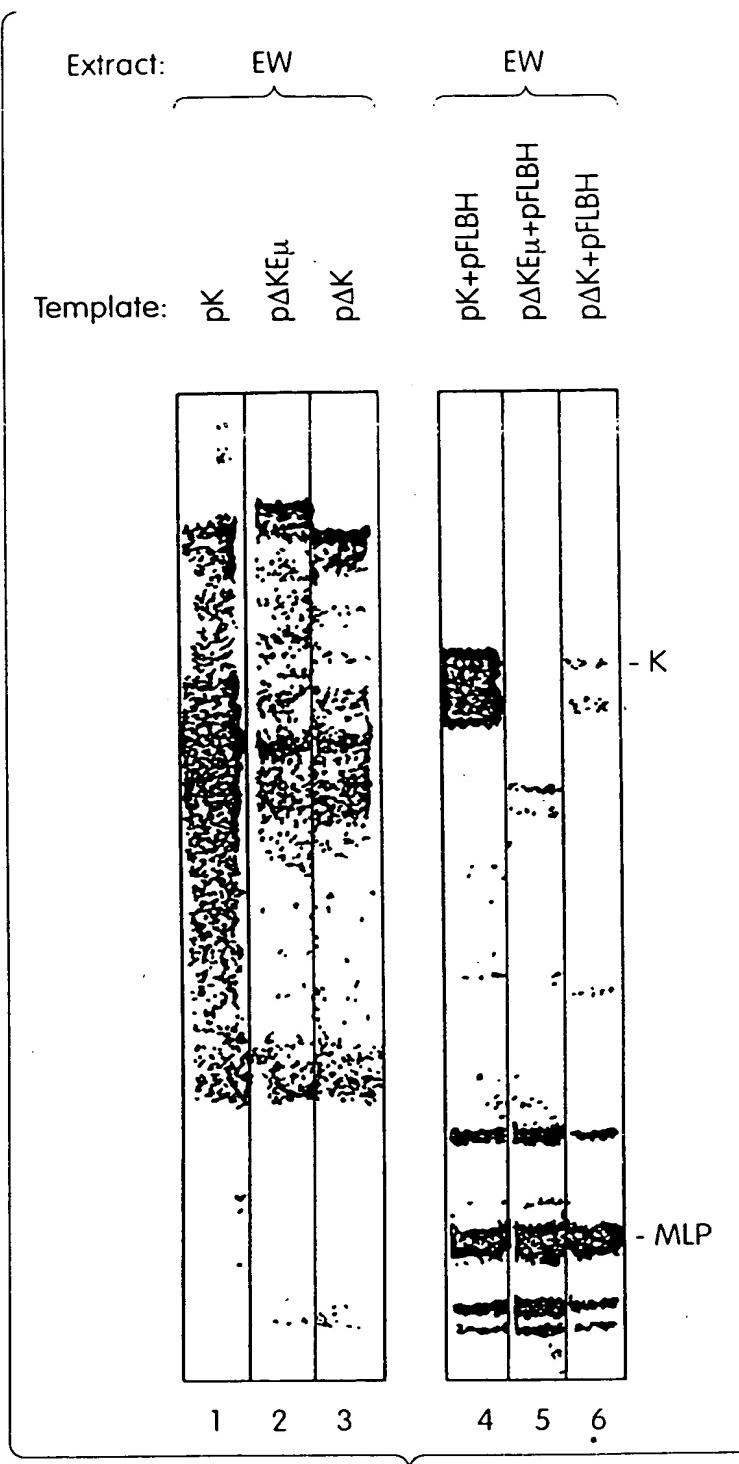


Fig. 6

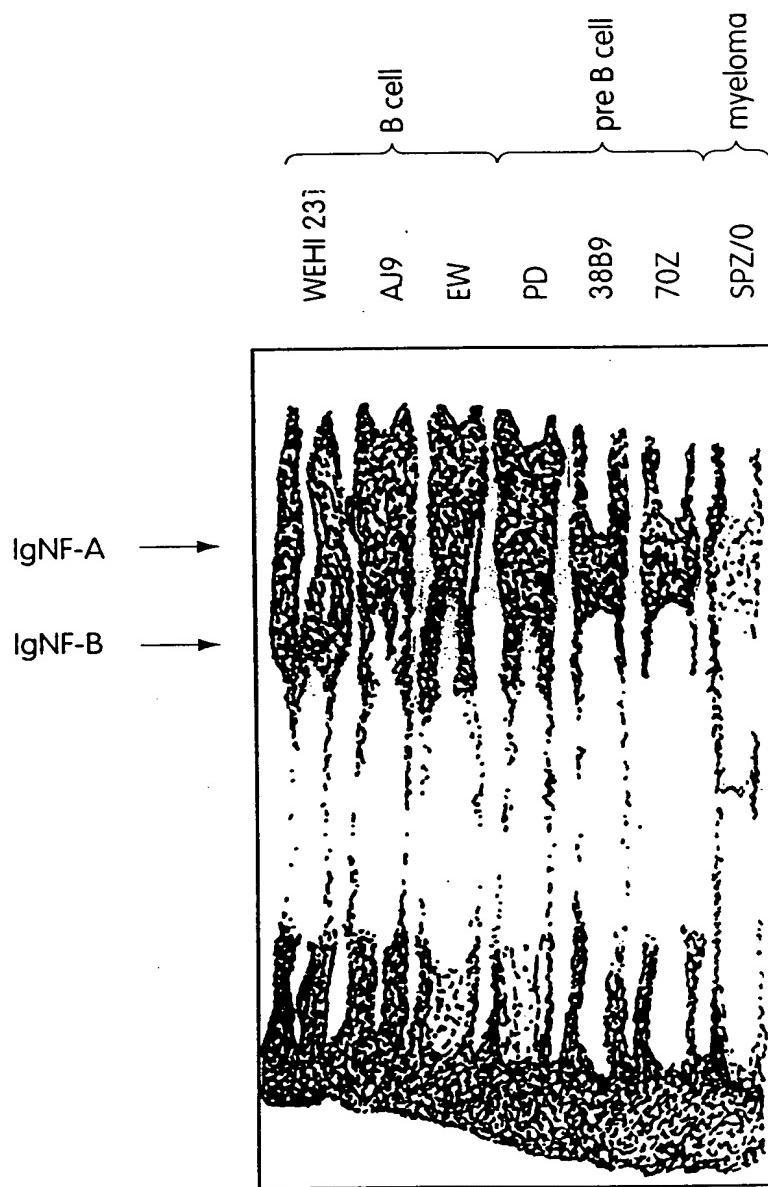


Fig. 7

10/58

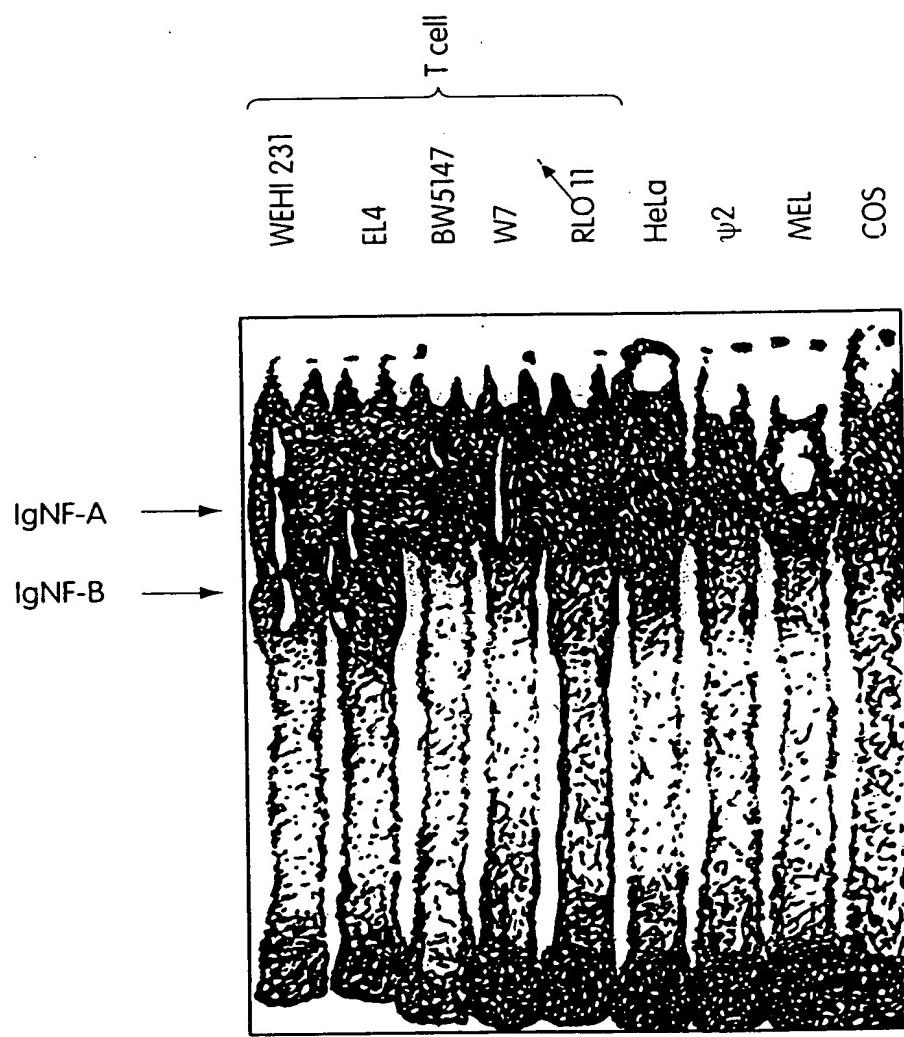
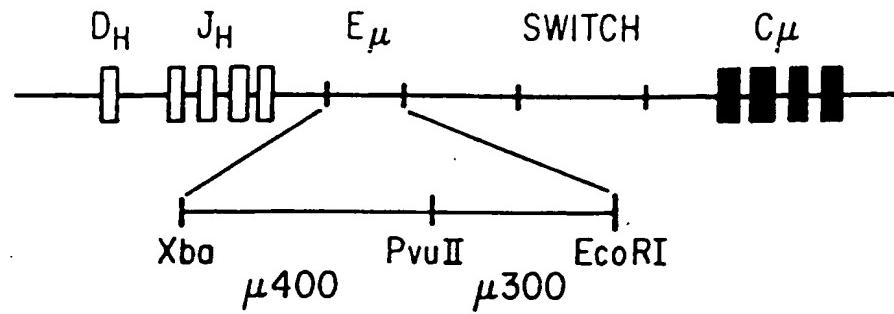


Fig. 8

Figure 9A



Fragment: μ 300
Extract: EW
Competitor

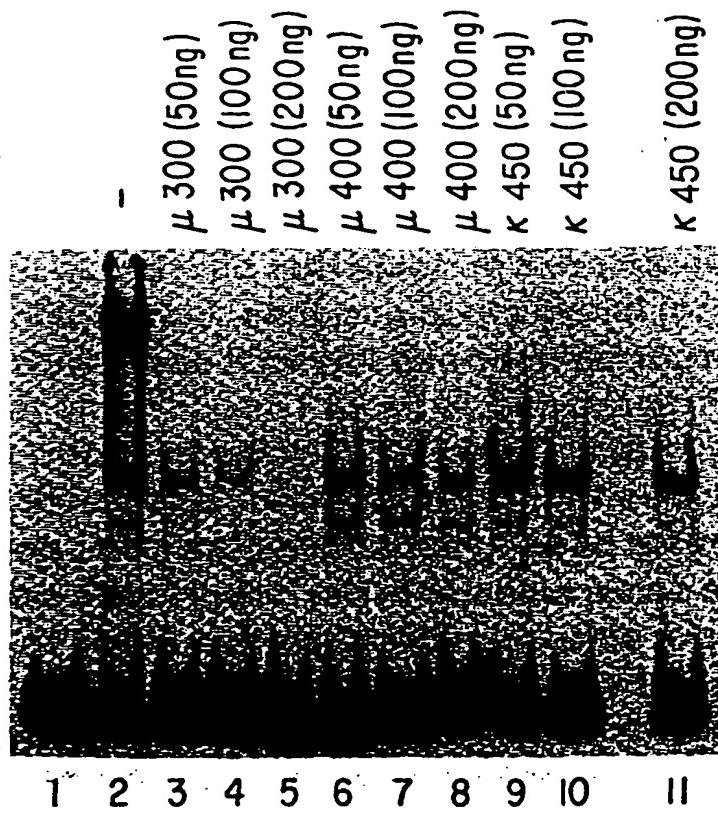


Figure 9B

Figure 10A

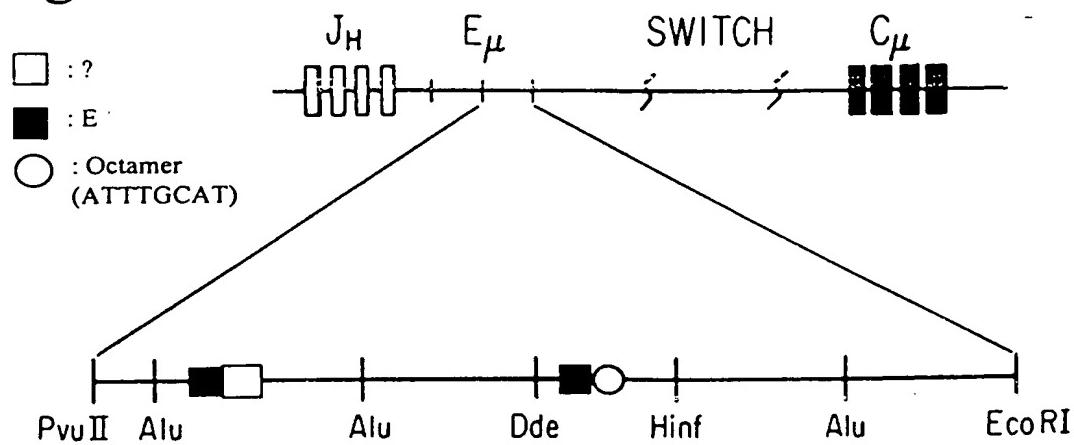
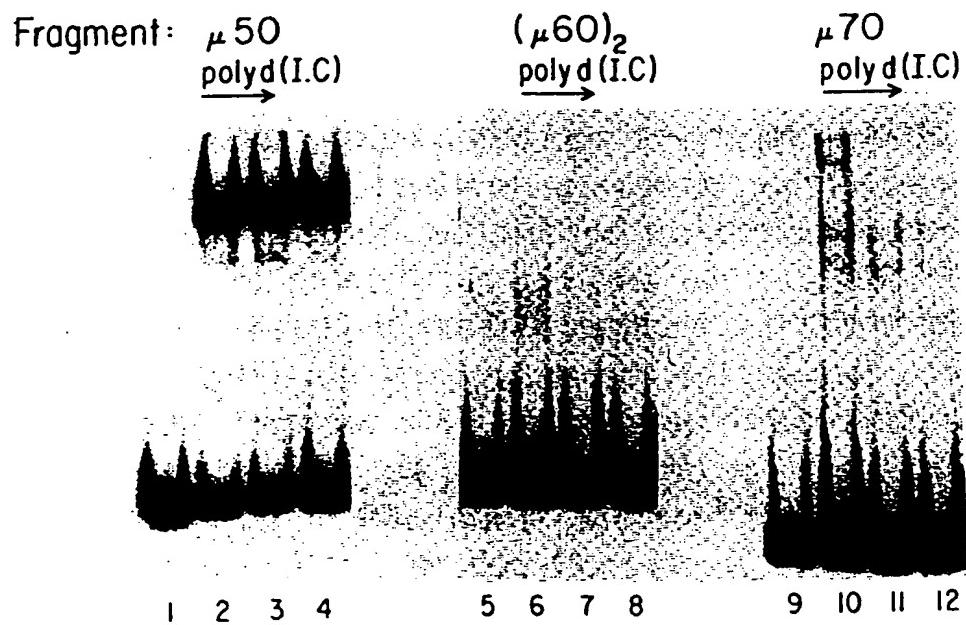


Figure 10B



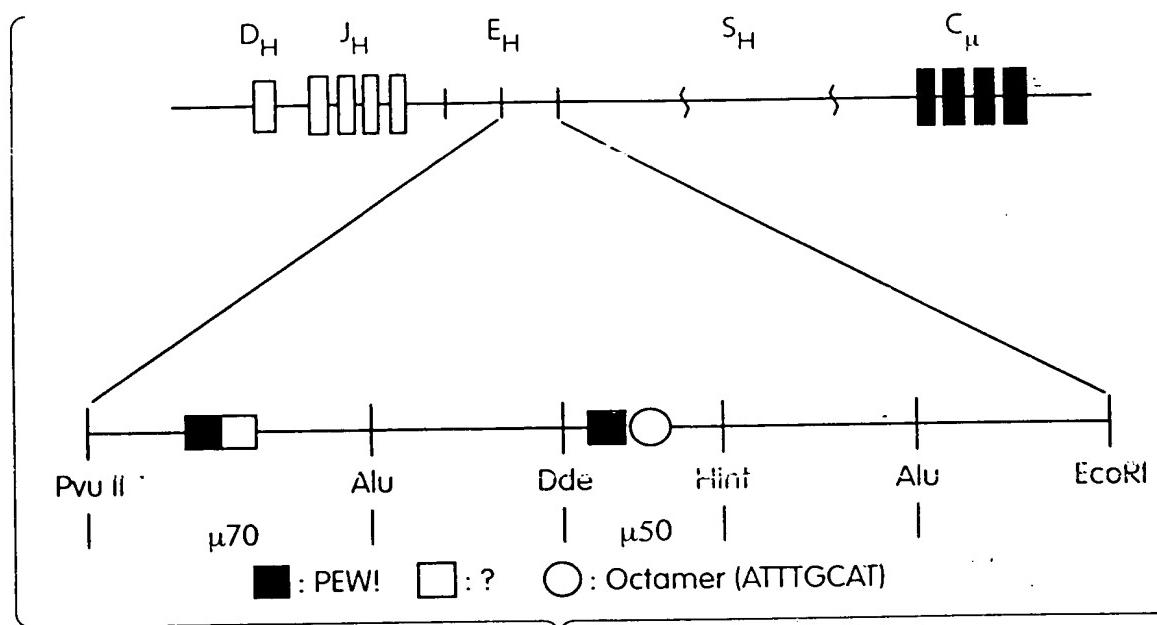


Fig. 10C

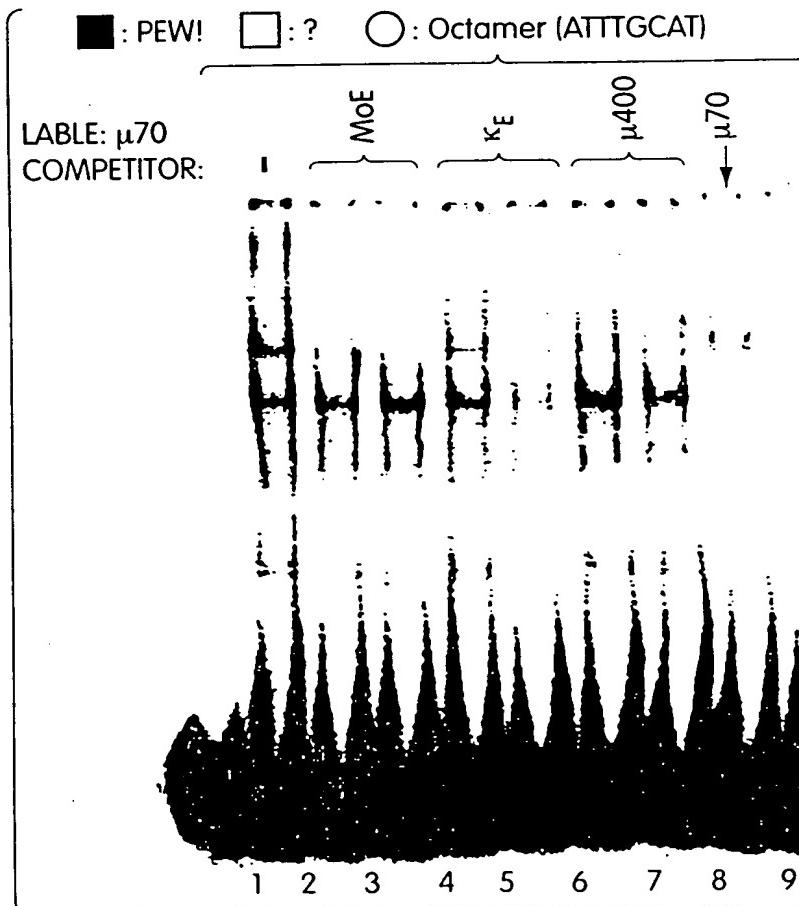


Fig. 10D

Figure 10E

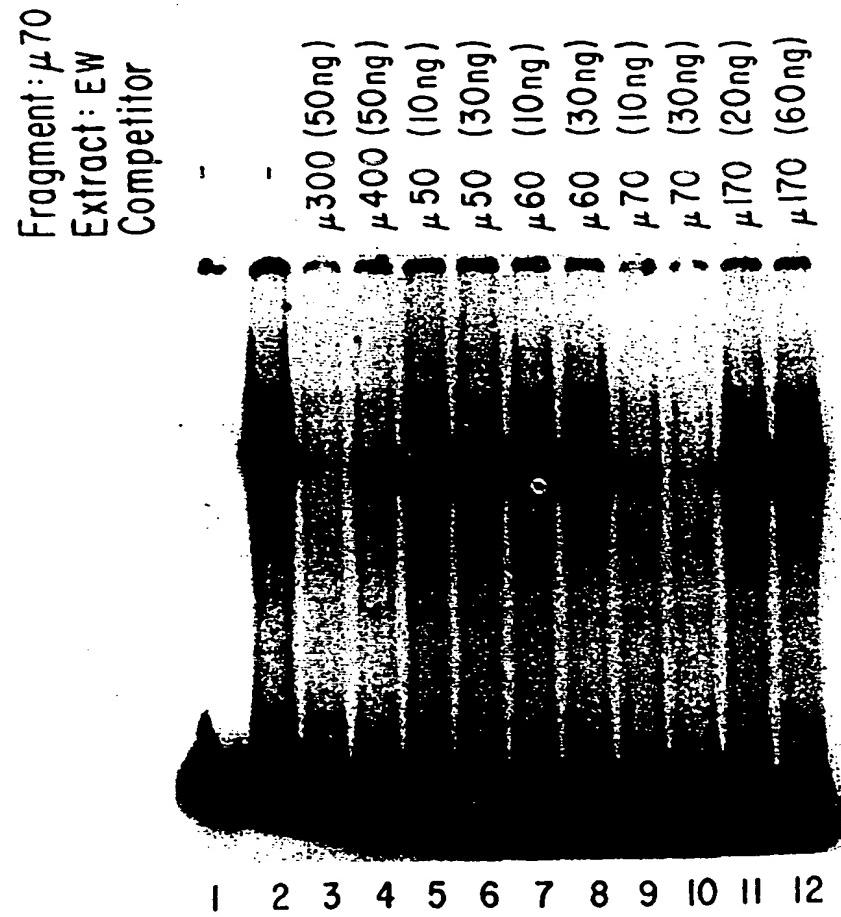


Figure 11A



Figure 11B



μ_{50} :

AATTACCCAGGTGGTGTTC^{○○}
TTAATGGGTCCACCACAAACG^{●○○}

μ_{70} :

AGCAGG[○]TCA[○]T^{●○○}GCAAGGCTA
TCGTCCA[○]TACACC^{●○}TTCCGAT[○]

Fig. 11C

Figure 12A

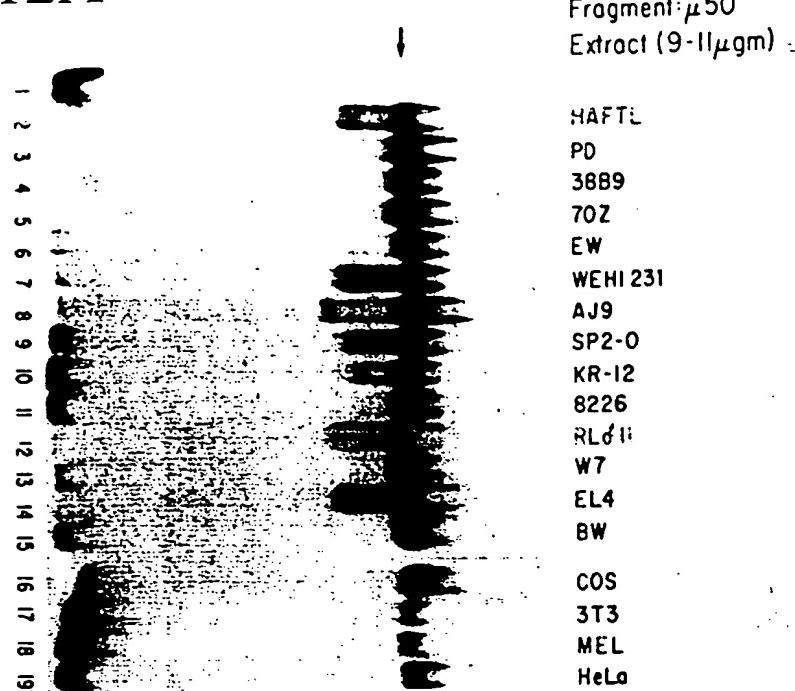


Figure 12B

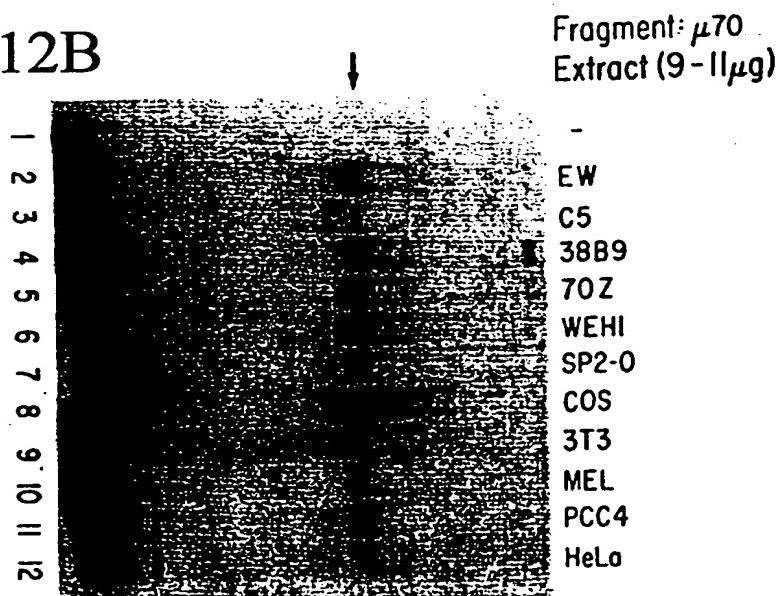


Figure 13A

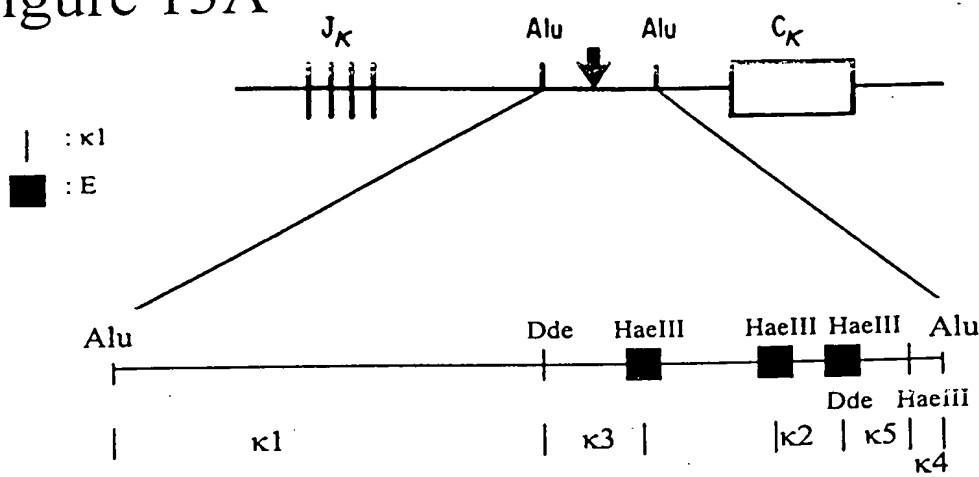


Figure 13B

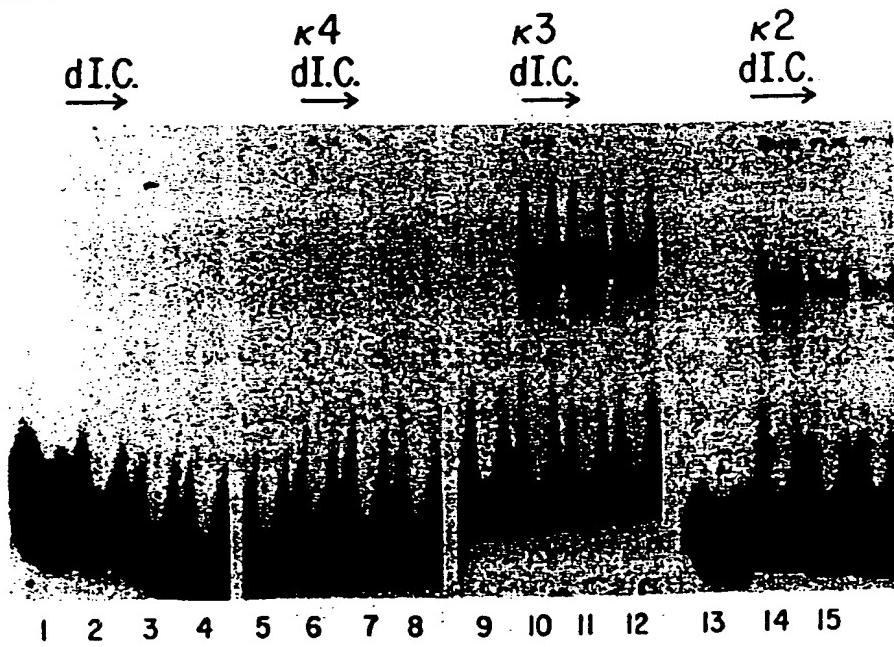


Figure 13C

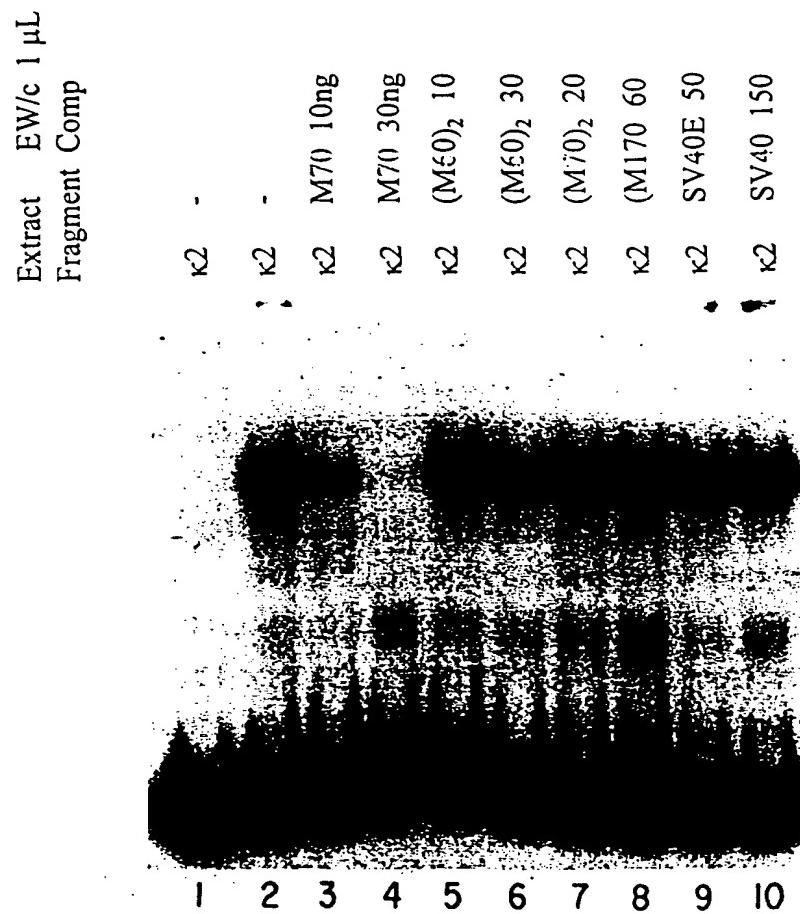
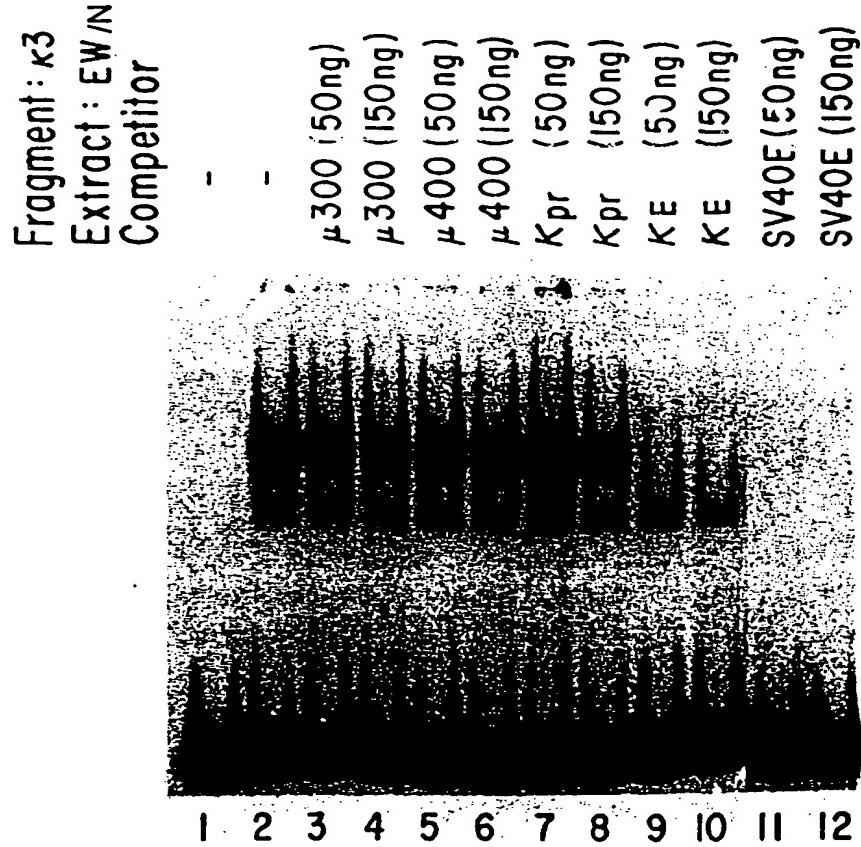


Figure 13D



Fragment: κ -3 / Dde*
Extract



Figure 14

COPY OF PAPERS
ORIGINALLY FILED

Figure 15A

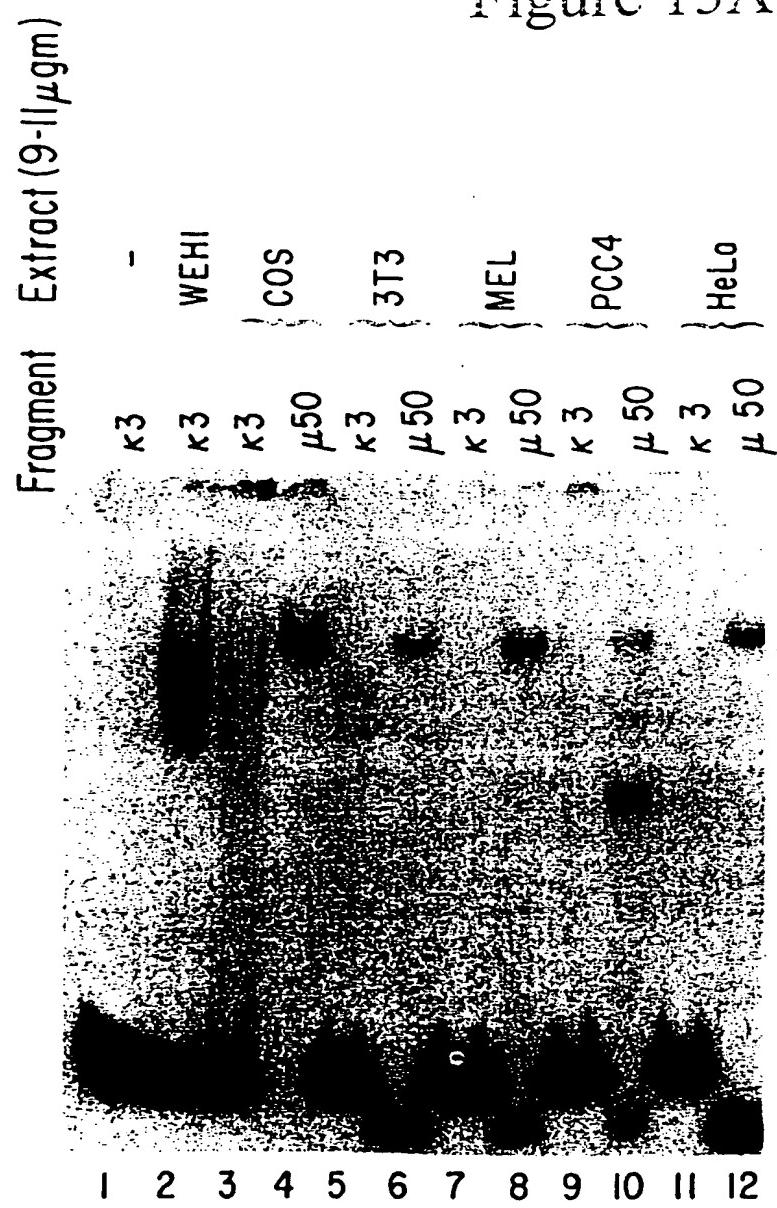
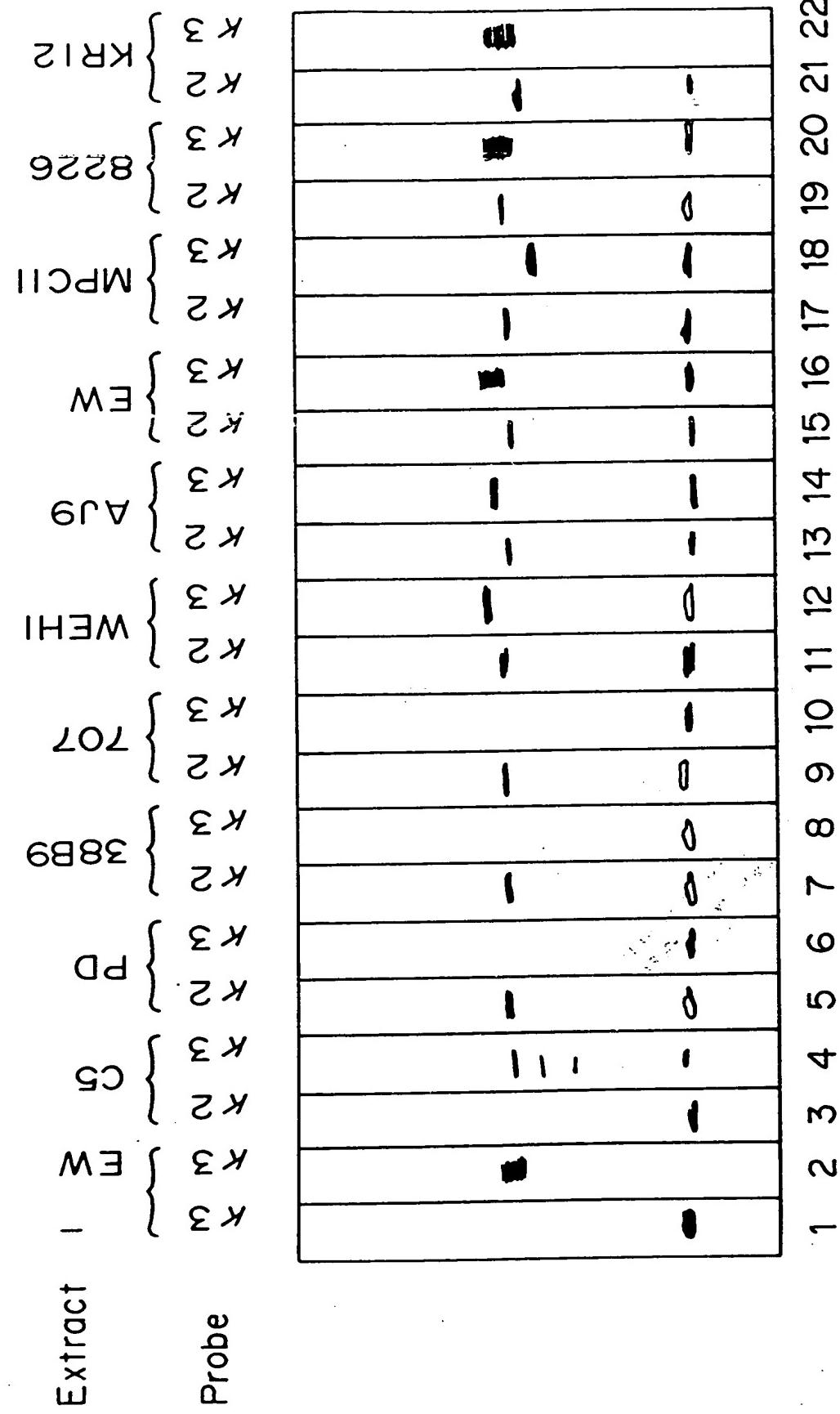


FIGURE 15b



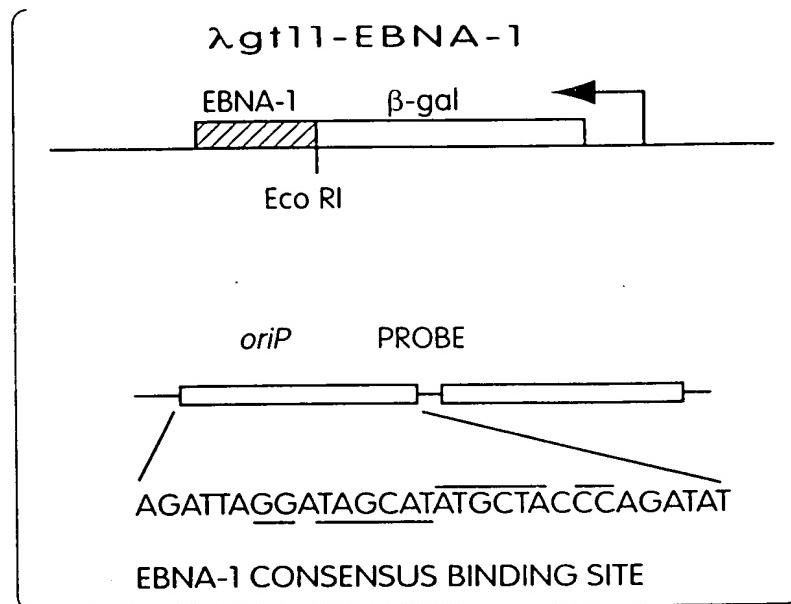


Fig. 16

MHC	TGGGGATTCCCCA
mhc1	TGcGGATTCCCAa
κ EN	aGGGGACTttCCg
κ en	aaattAcTttCCg
SVEN	TGGGGAcTttCCA
HIV	TGGGGAcTttCCA
	aaGGGAcTttCCg

Fig. 17

1 CTGGGGCCCCCAGAGAGGGTGGGGAGATGACACAGTTCCCTGGCG
 61 GGCAGCATGGTCACTCCAGCATGGGGCTCCAGAAATAAGAATGTCTAACGCCCTGGAG
 M V H S S M G A P E I R M S K P L E
 121 GCCGAGAAGCAAGGTCTGGACTCCCCATCAGAGCACACAGACACCGAAAGAAATGGACCA
 A E K Q G L D S P S E M T D T E R N G P
 181 GACACTAATCATCAGAACCCCCAAAATAAGACCTCCCCATTCTCCGTGTCCCCAACTGGC
 D T N H O N P Q N R T S P F S V S F T G
 241 CCCAGTACAAAGATCAAGGCTGAAGACCCCAGTGGCGATTAGCCCCAGCAGCACCCCTG
 P S T K I K A E D P S G D S A P A A P L
 301 CCCCTCAGCCGGCCCAGCCTCATCTGCCCAAGGCCAACTCATGTTGACGGGCAGCCAG
 P P Q P A Q P N L P Q A Q L M L T G S Q
 361 CTAGCTGGGACATACAGCAGCTCCAGCTCCAGCAGCTGGTGCTTGTGCCAGGCCAC
 L A G D I Q Q L L Q L Q Q L V L V P G H
 421 CACCTCCAGCCACCTGCTCAGTCCTGCTACCGCAGGCCAGAGGCCAGGCCCTG
 H L Q P P A Q F L L P Q A Q Q S Q P G L
 481 CTACCGACACCAAATCTATTCCAGCTACCTCAGCAAACCCAGGGAGCTCTTGACCTCC
 L P T P H L F Q L P Q Q T Q G A L L T S
 541 CAGCCCCGGGCCGGCTTCCCACACAGGCCGTGACCCGCCCTACGCTGCCGACCCGCAC
 Q P R A G L P T Q A V T R P T L P D P H
 601 CTCTCGCACCGCAGCCCCCAAATGCTGGAGCCACCATCCCACCCGAGGAGGCCAGT
 L S H P Q P P K C L E P P S H P E E P S
 661 GATCTGGAGGAGCTGGAGCAATTGGCCGCACCTCAAGCAACGCCGCATCAAGCTGGC
 D L E E L E Q F A R T F K Q R R I K L G
 721 TTACCGCAGGGTGATGTGGCCCTGGCCATGGCAAGCTCTACGCCAACGACTTCAGCCAG
 F T Q G D V G L A M G K L Y G N D F S Q
 C G P G H G Q A L R Q R L Q P D

Fig. 18A

ACGACCATTCCCGCTTCGAGGCCCTAACCTGAGCTCAAGAACATGTGCAAACCTCAAG
 781 T T I S R F E A L N L S F K N M C K L K
 D H F P L R G P Q P E L Q E H V Q T Q A

CCCCTCCTGGAGAAGTGGCTAACGATGCAGAGACTATGTCTGTGGACTCAAGCCTGCC
 841 P L L E K W L N D A E T M S V D S S L P
 P P G E V A Q R C R D Y V C G L K P A Q

AGCCCCAACCAACCAGCTGAGCAGCCCCAGCCTGGGTTTCGAGCCTGCCGGCCGGAGACGCAAG
 901 S P N O L S S P S L G F E P A G R R R K
 P Q P A E Q P Q P G F R A C M P E T Q E

AAGAGGACCAGCATCGAGACAAACGTCCGCTTCGCCTTAGAGAAGAGAGTTCTAGCGAAC
 961 K R T S I E T N V R F A L E K S F L A N
 E D Q M R D K R P L R L R E E F S S E P

CAGAAGCCTACCTCAGAGGAGATCCTGCTGATGCCGAGCAGCTGCACATGGAGAAGGAA
 1021 Q K P T S E E I L L I A E Q L H M E K E
 E A Y L R G D P A D R R A A A H G E G S

GTGATCCGGTCTGGTTCTGCAACCGGCCCCAGAAGGACAAACGCATCAACCCCTGCAGT
 1081 V I R V W F C N R R Q K E K R I H P C S
 D P R L V L Q P A P E G E T H Q P L Q C

GCGGCCCATGCTGCCAGCCCAGGAAGCCGCCAGCTACAGCCCCATATGGTCACA
 1141 A A P M L P S P G K P A S Y S P H H V T
 G P H A A Q P R E A G Q L Q P P Y G H T

CCCCAAGGCGCGCGGGACCTTACCGTTCTCCAAGCTCCAGCAGTCTGAGCACACA
 1201 P Q G G A G T L P [L] S Q A S S S [L] S T T
 P A G R G D L T V V P S F Q Q S E H N S

Fig. 18A
(CONTINUED)

1261 GTTACTACCTTATCCTCAGCTGTGGGACGCTCCACCCAGCCGGACAGCTGGAGGGGGT
 V T T [L] S S A V G T [L] H P S R T A G G G
 Y Y L I L S C G D A P P Q P D S N M G W
 1321 GGGGGCGGGGGCGGGGCTGCGCCCCCCCTCAATTCCATCCCCTCTGTCACTCCCCCACCC
 G G G G G A A P P L N S I P S V T P P P
 G M G R G C A P P Q F H P L C H S P T P
 1381 CGGCCACCACCAACAGCACAAACCCAGCCCTCAAGGCAGCCACTCGGCTATCGGCTTG
 P A T T N S T N P S P Q G S H S A I G L
 G H N Q Q H K P Q P S R Q P L G Y M L V
 TCAGGCCTGAACCCCAGCACGGGTAAGTGGGTGCACGTGGGAAGCTGTGGGAGAAGCA
 1441 S G L H P S T G +
 A P E P Q N G V S G C T W E A V G R S R
 GCGTCGCTGCTCTTCTAGGGTGGGAGCGGCACCCAGTTATGTTGGCAGGTCCCTGCC
 1501 V A A A S R V G S G T P V M L A G P C P
 CCTGCTAATGCCTCTGCTTGCCTCTTGCAGAACATGGTGGGTTGAGCTCCGGCT
 1561 C +
 GAGTCCAGCCCTCATGAGCAACAACCCCTTGGCCACTATCCAAGGTGCGTGCTGCCTCAT
 1621 GTCACACCCATCGTCACCAGCCCCGGAATTGAG
 1681

**Fig. 18A
(CONTINUED)**

↓

```

CCTCAAGGCAGCCACTCGGCTATCGGCTTGTCAAGGCCTGAACCCCAGCACGGGCCCTGGC
1411 -----+-----+-----+-----+-----+
P Q G S H S A I G L S G I N P S T G P G
S A Q P L G Y R L V M P E P Q M G P N P

CTCTGGTGGAACCTGCCCTTACCGCCTTGATGGCAGCGGGAACTGGTGCTGGGGC
1471 -----+-----+-----+-----+-----+
L W W N P A P Y Q P .
L V E P C P L P A L M A A G I W C W G Q

AGCCGGTGCAGCCCCGGGAGCCCTGGCCTGGTACCTCGCCGCTCTTCTTGAATCATGC
1531 -----+-----+-----+-----+-----+
P V Q P R G A L A W .

TGGGCTGCCCTGCTCAGCACCCGCCTGGTGTGGCCTGGTCTCAGCAGCGGCTGCAGG
1591 -----+-----+-----+-----+-----+
TGTGGCAGCCTCCATCTCCAGCAAGTCTCCTGCCCTCCTCCTCATCCTCTTCATCCTC

ATCCTCCTCCTCCACTTGCAGCGAGACGGCAGCACAGACCCTGGAGGTCCAGGGGG
1651 -----+-----+-----+-----+-----+
1711 -----+-----+-----+-----+-----+
CCCGAGGCAGGGTCAAACCTGAGTGAGGGCCAGCCATGCCTCCCTCCATTCCCTCTGG
1771 -----+-----+-----+-----+-----+
1831 -----+-----+
TCCCTGCCCGGAATTTC

```

Fig. 18B

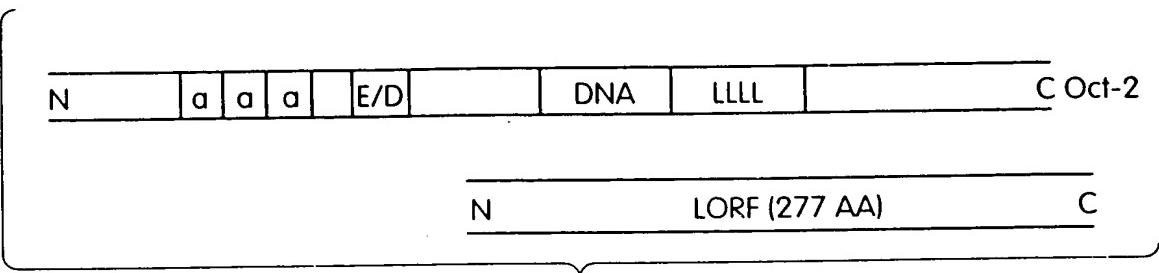


Fig. 18C

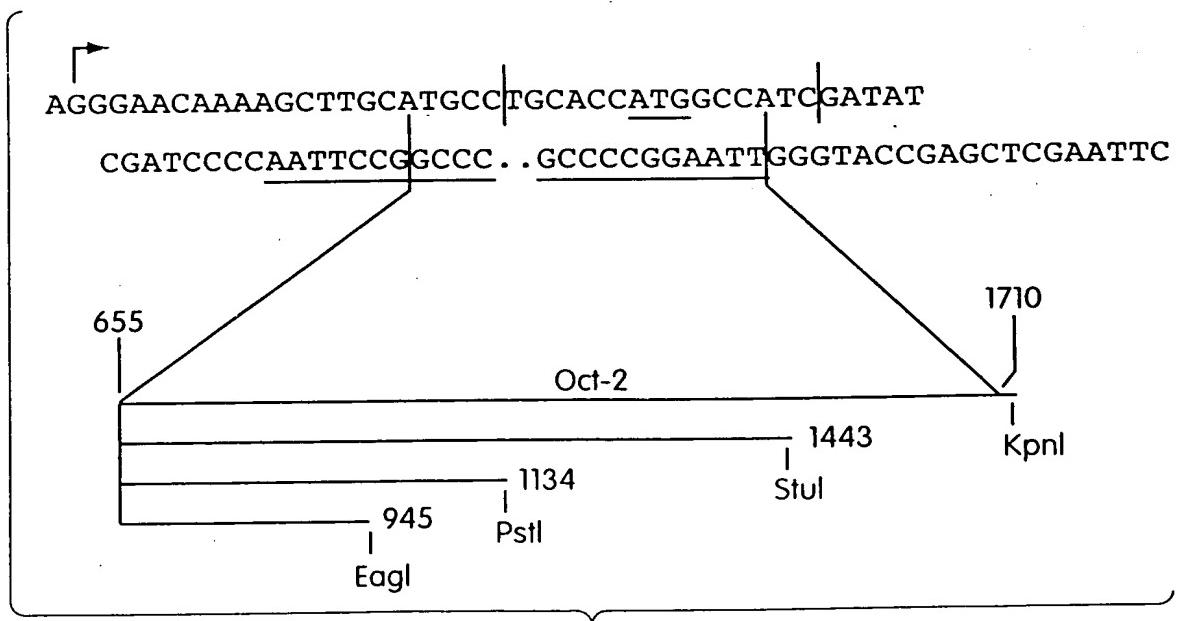


Fig. 19

helix turn helix →

Oct-2 RRKKBT~~S~~IETNVRFALEKSFLANQKPTSEELLLIAEQLHMEKEVIRVMECNFRQEKEKRINPC*

a1 SPKGKSSISPQARAFLEQVFRKQSLNSKEKEEVAKKCGITPLQVRVHEINKMRSK*

a2 KPYRGHRFTKENVRILESWFAKNPYLDTKGLENLMKNTSLSRIQIKNWVSNNBRKEKTIT*

pho2 QRPKBTRAKGEALDVILKRKFEINPTPSLVERKKISDLIGMPEKVNRIVEQNRRAKLRRKKQ*

mec-3 RRGPBTTIKONQDVINEMESNTPKPKSKHARALAETGLSMRVIQVWEQNRRSKERRLK*

cut SKKQRVLFSEEQKEALRLAFADLPPPNVGTIEFLANELGLATRTITNWEHNHMRILKQQV*

en EKRPTAFSSSEQLARLKREENENRYLTERRQQLSSELGNEAQIKIWEQNKRAKIKKST*

Antp RKRGRQTYTRYQTLELEKEFHNRYLTRRRRIEIAHALCLTERQIKIWEQNRMKWKKEN*

(conserved residues in homeo-box family)

R	Q	L	X
I			
W	E	N	R

Fig. 20

Figure 21A

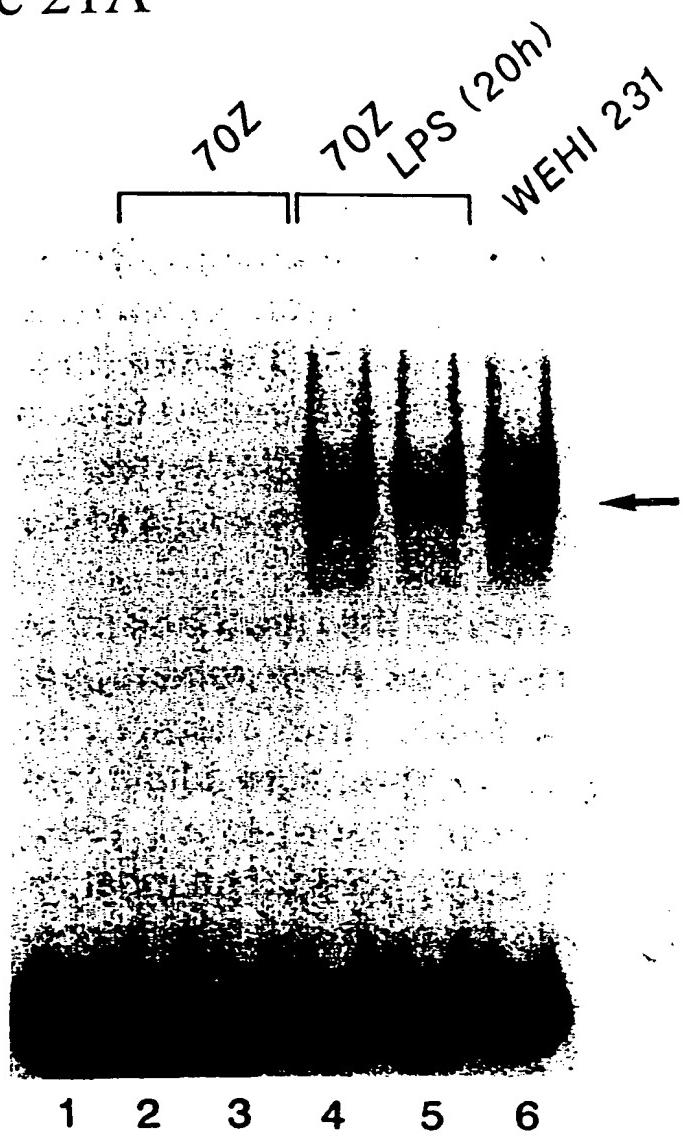


Figure 21B

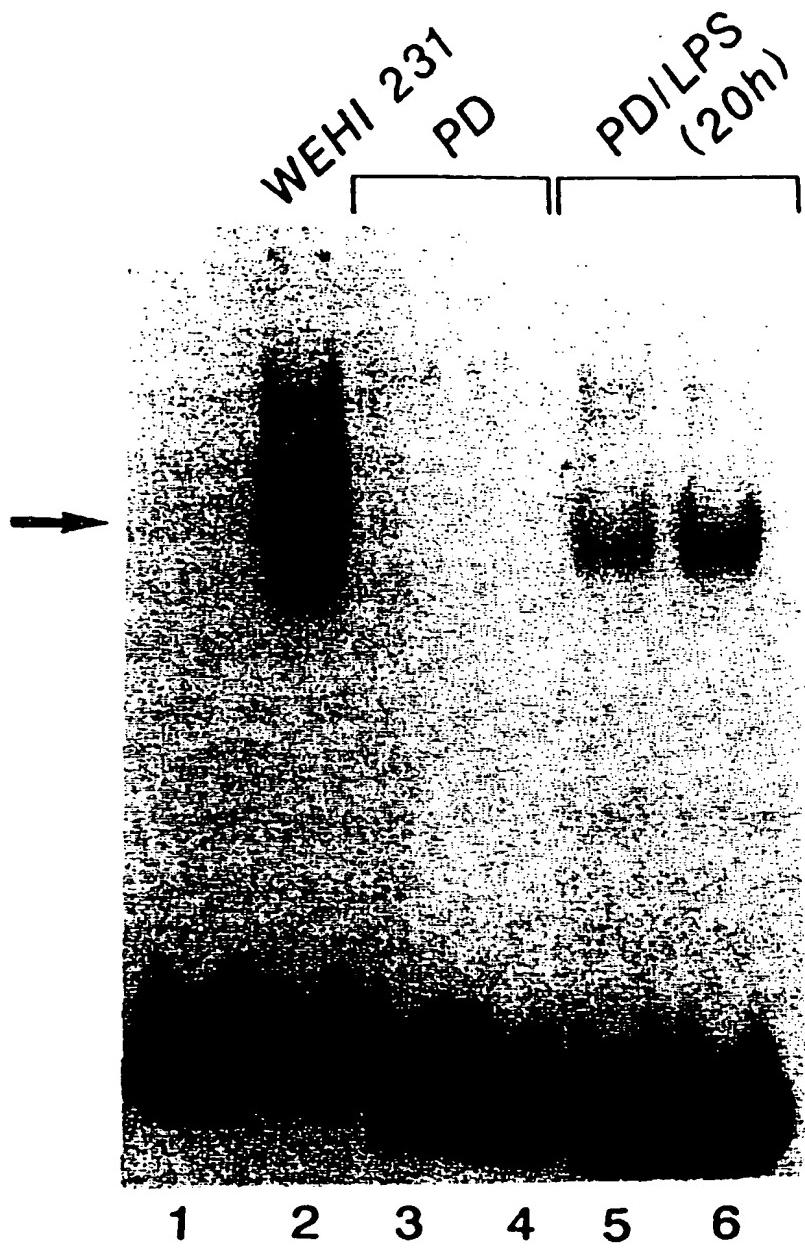


Figure 22A

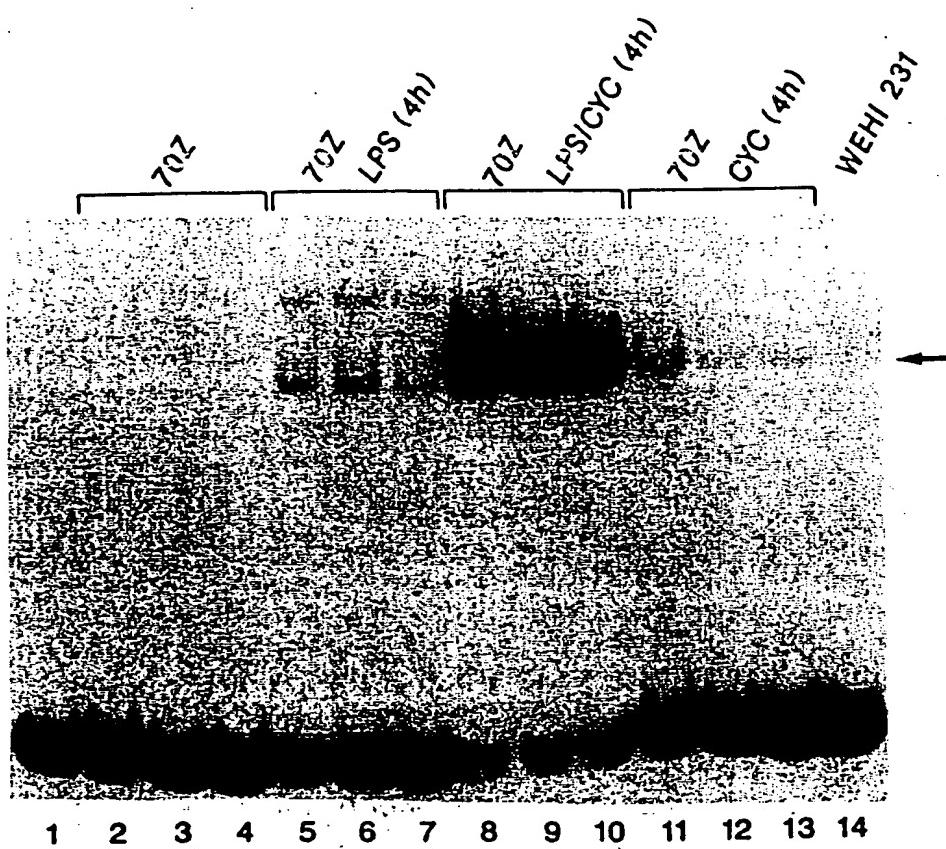


Figure 22B

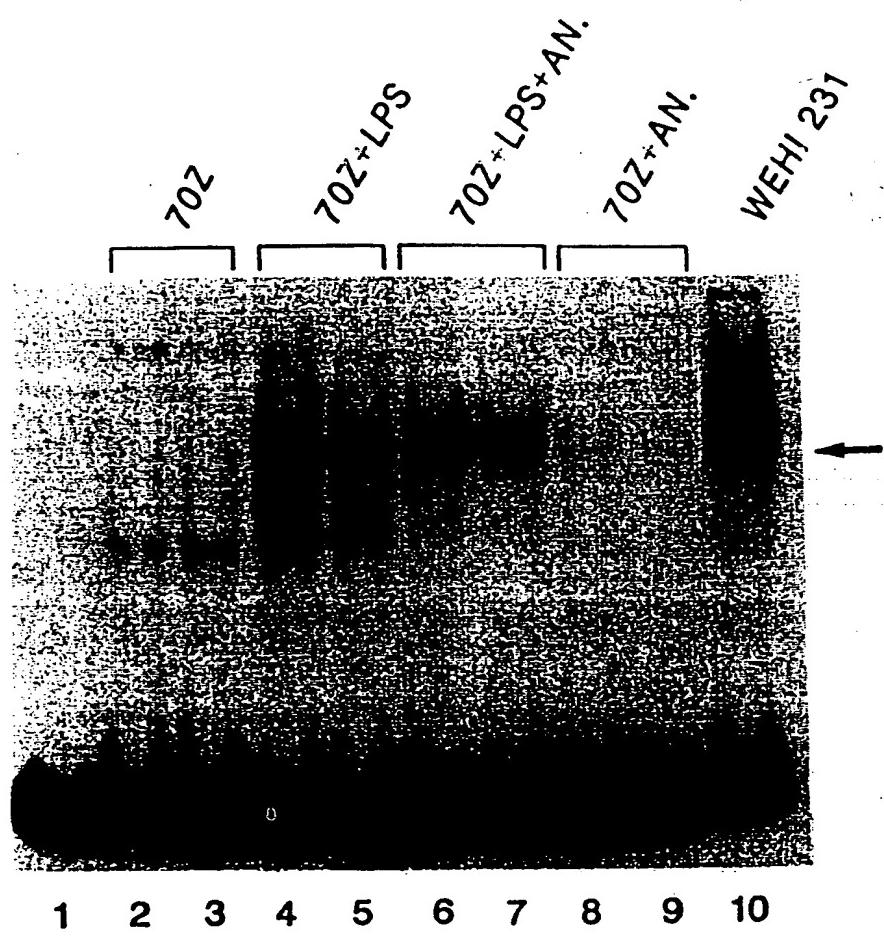


Figure 23A

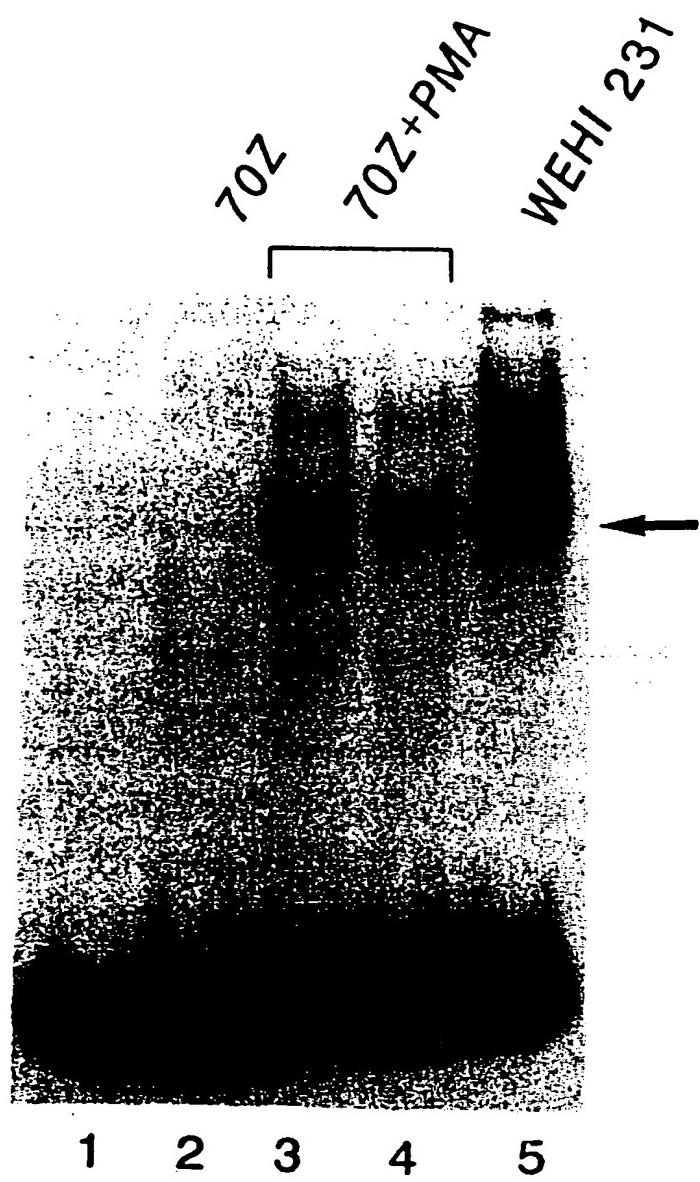


Figure 23B

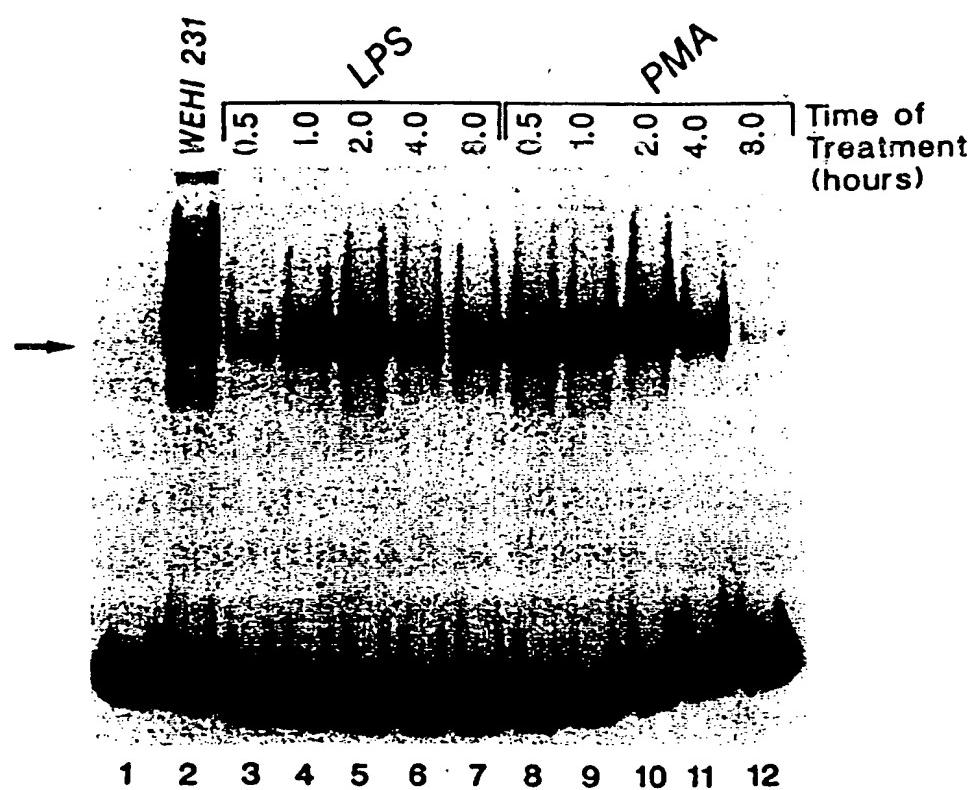


Figure 24A

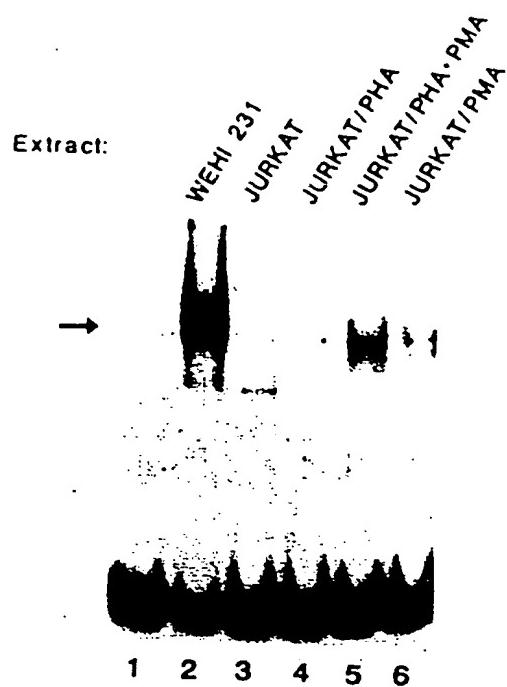


Figure 24B

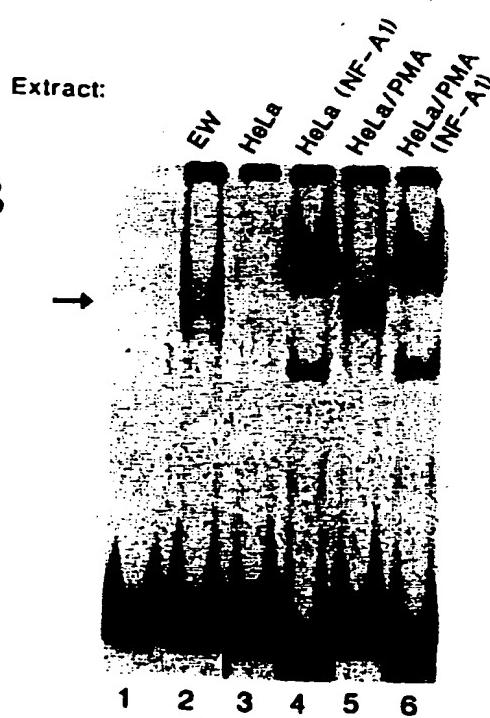
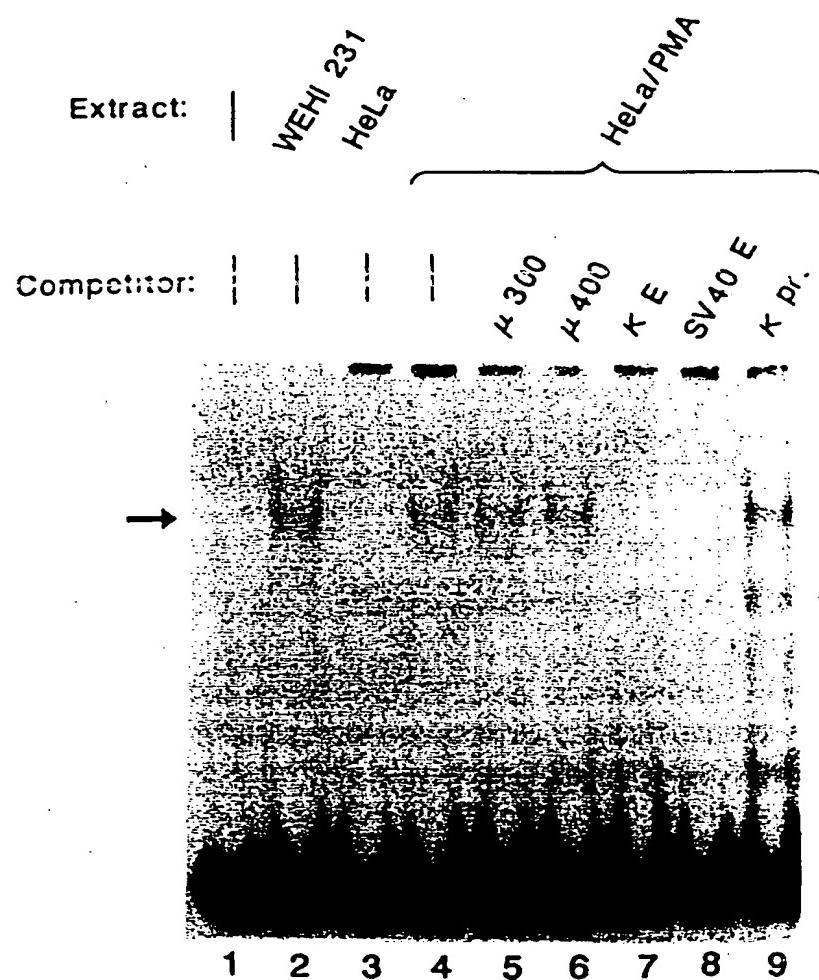


Figure 24C



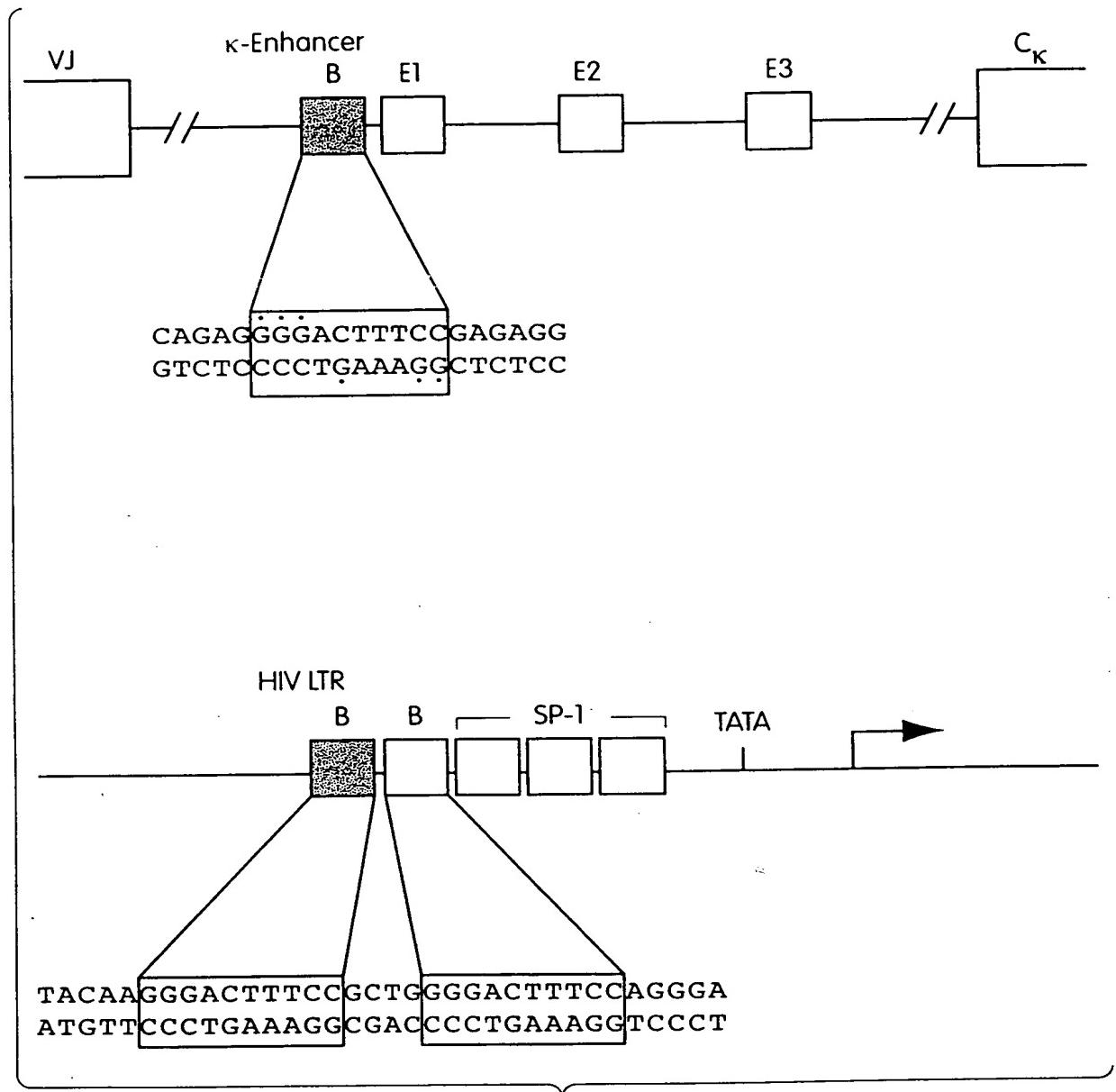


Fig. 25

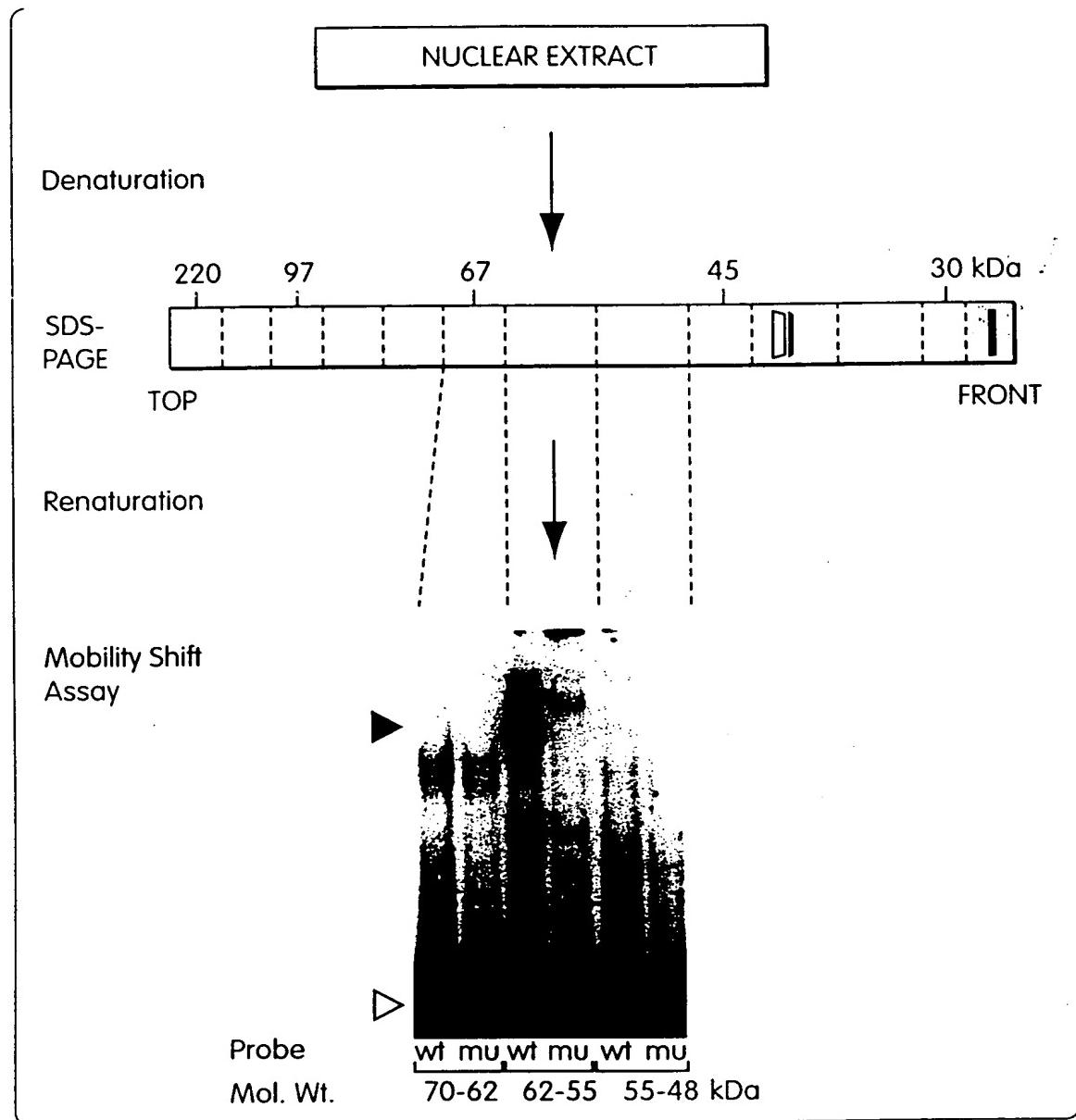


Fig. 26A

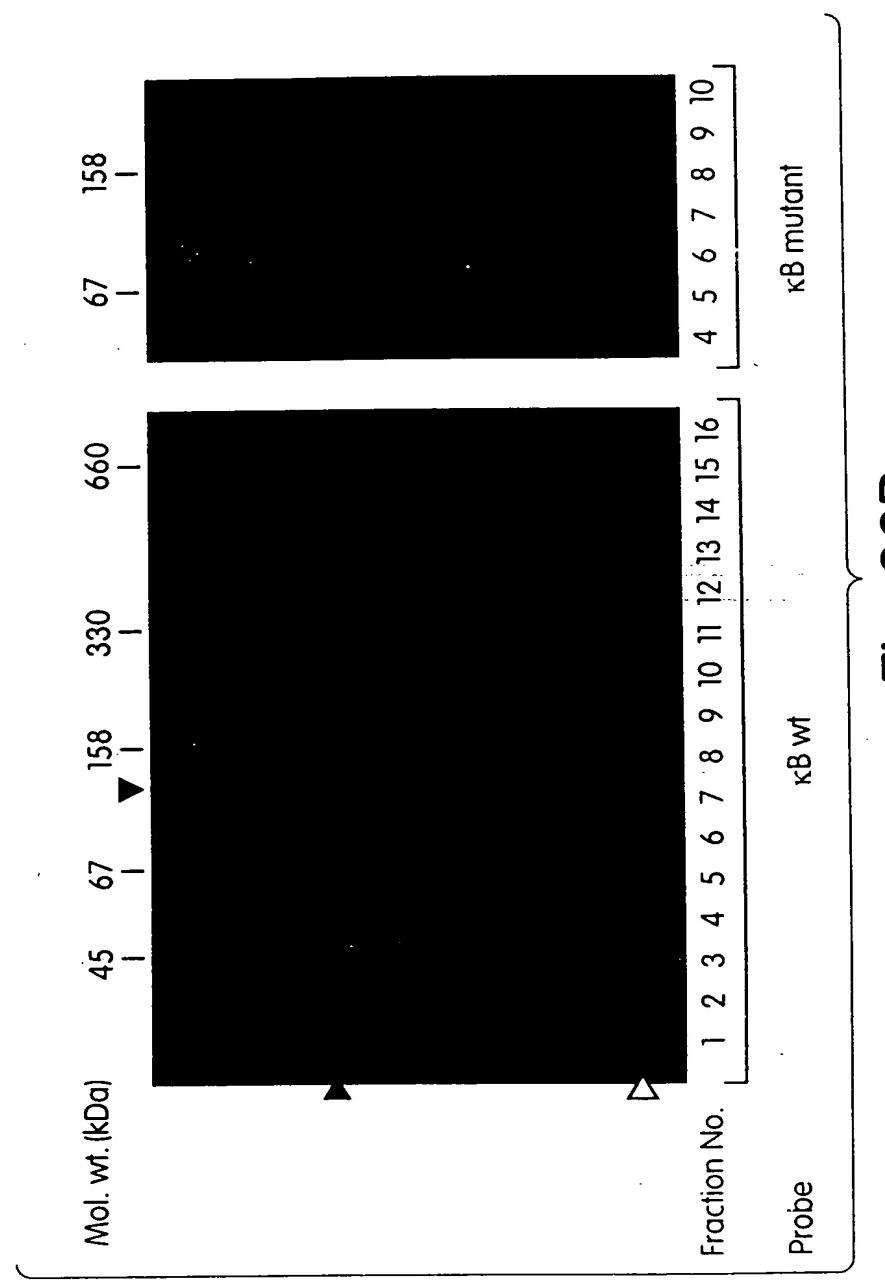


Fig. 26B

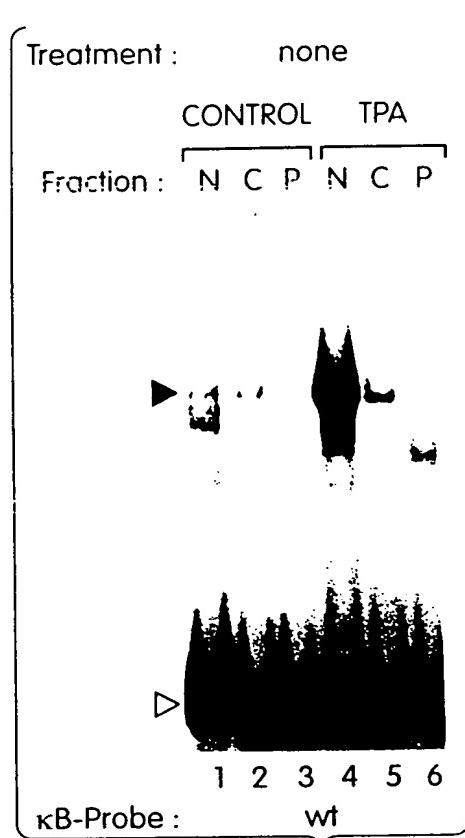


Fig. 27A

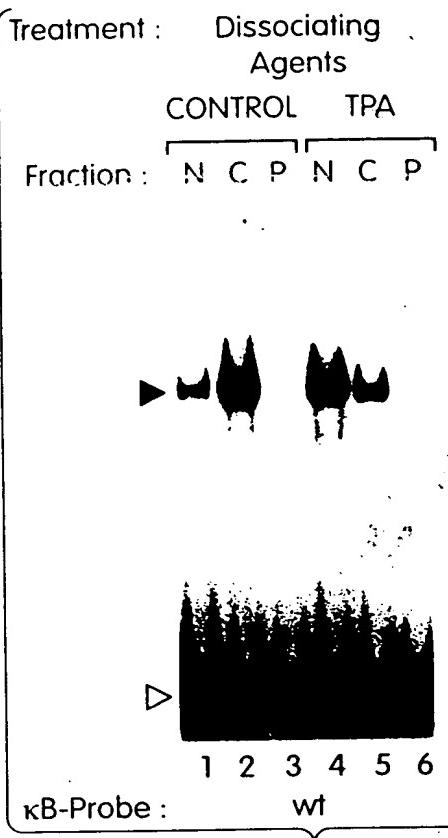


Fig. 27B

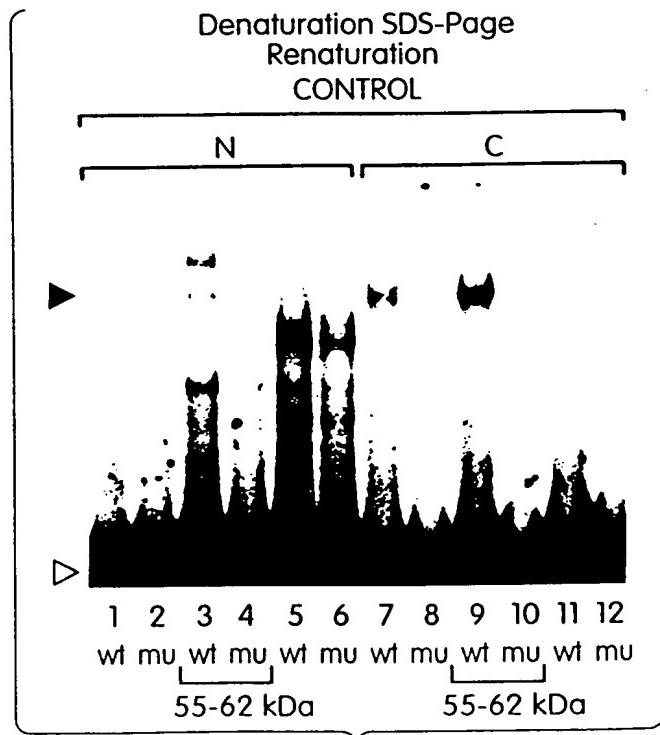


Fig. 27C

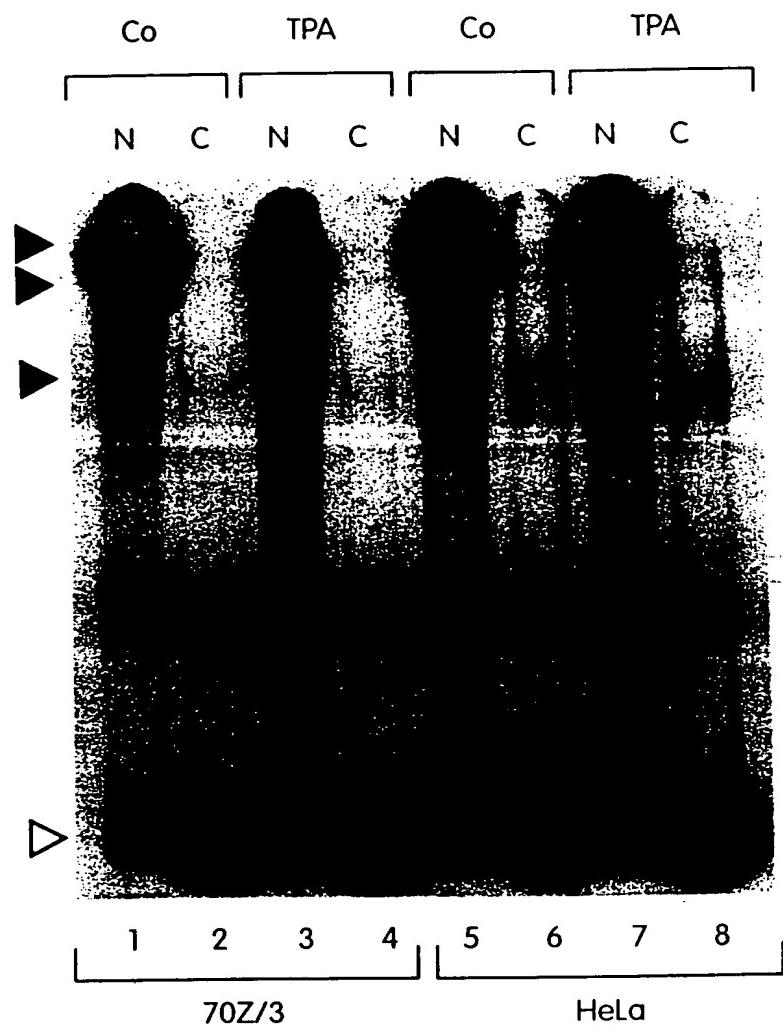


Fig. 28

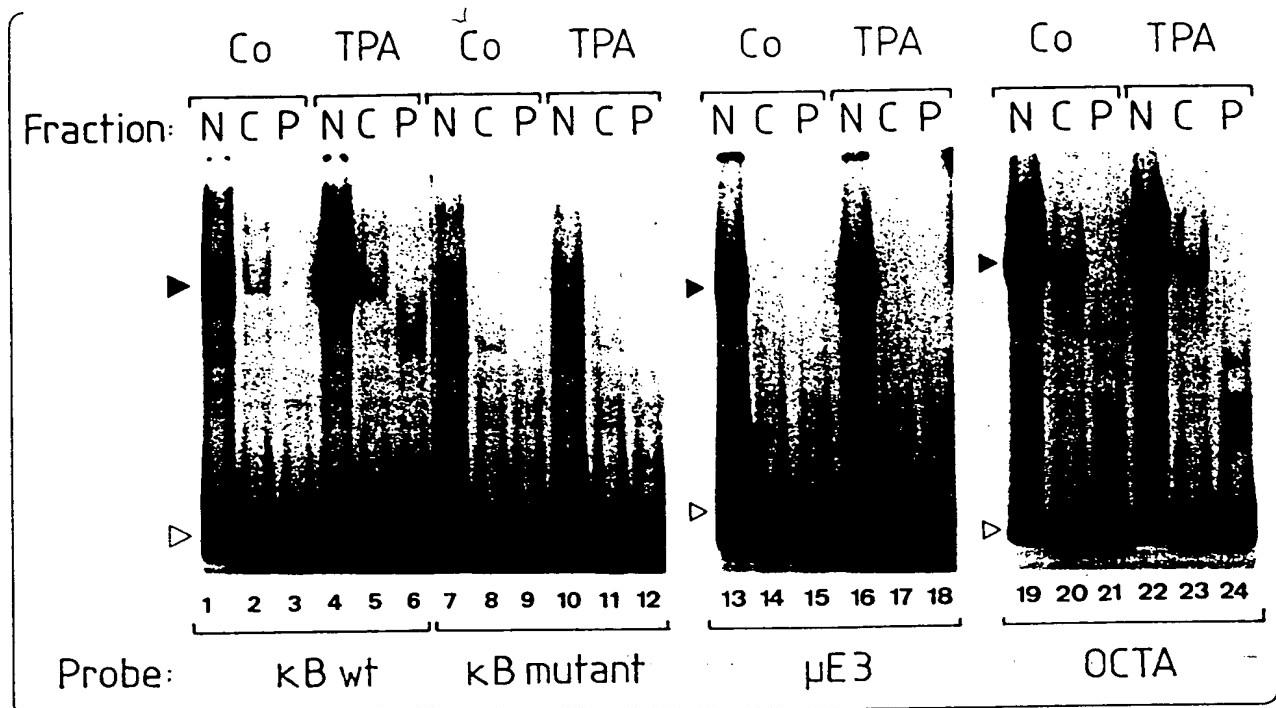


Fig. 29

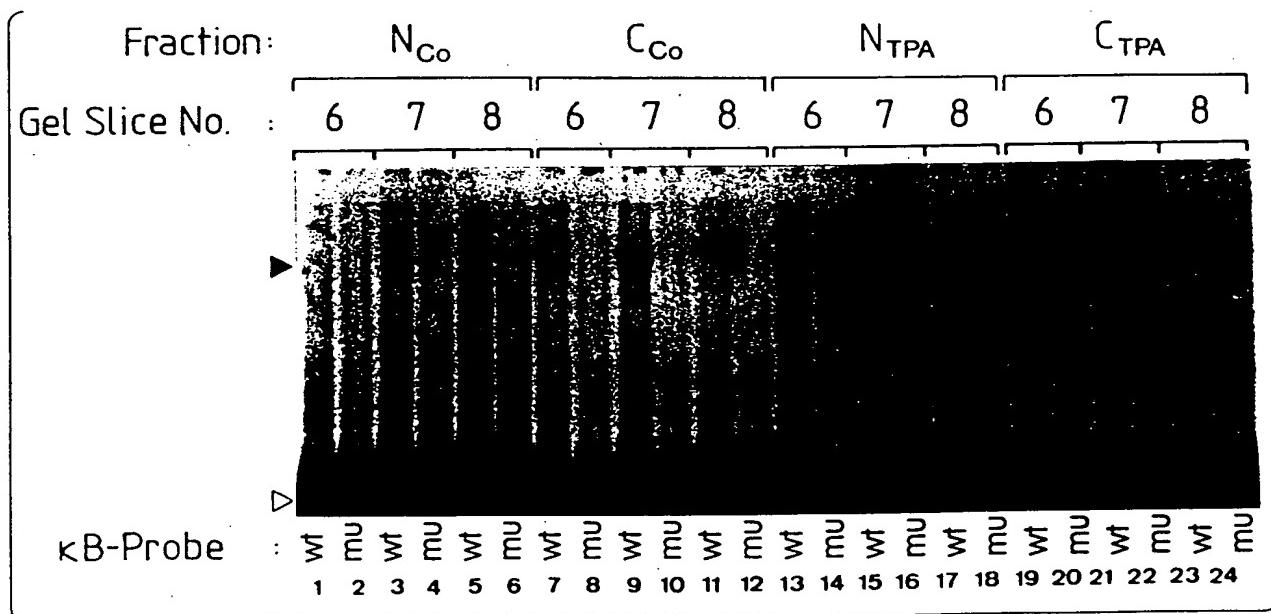


Fig. 30

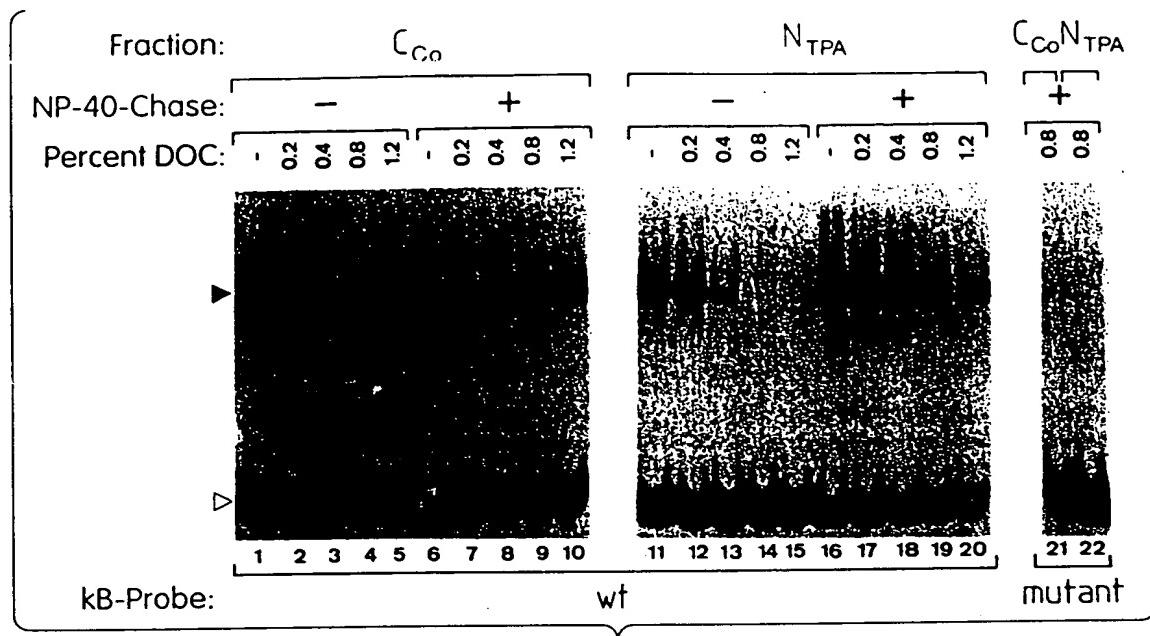


Fig. 31A

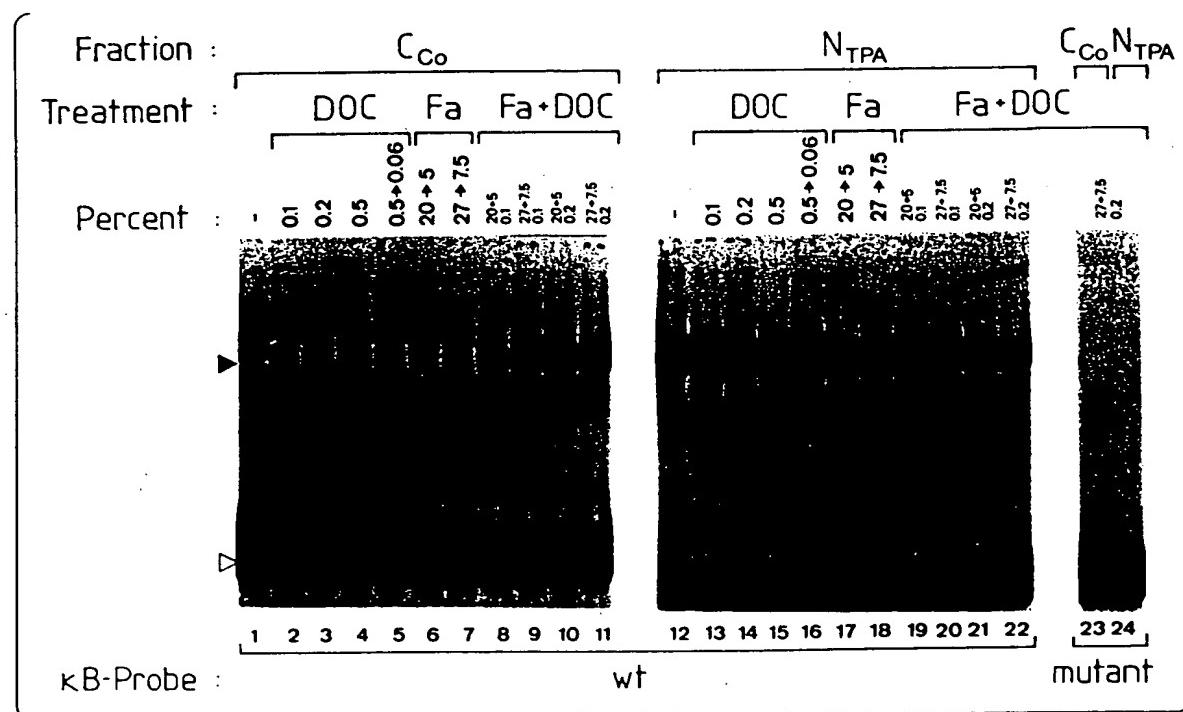


Fig. 31B

46/58

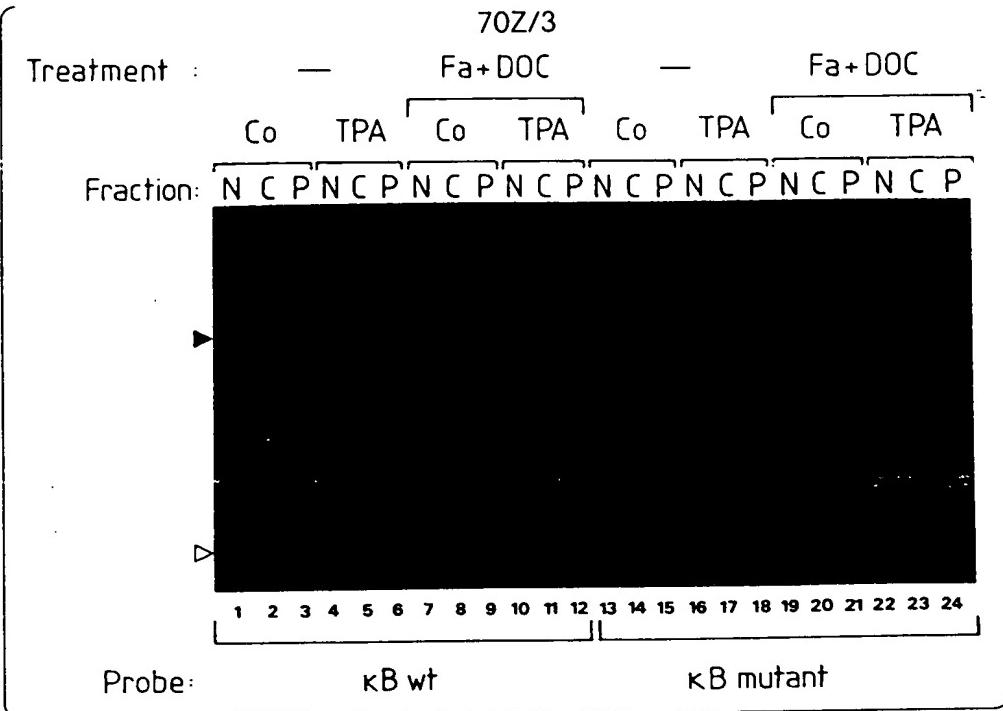


Fig. 32

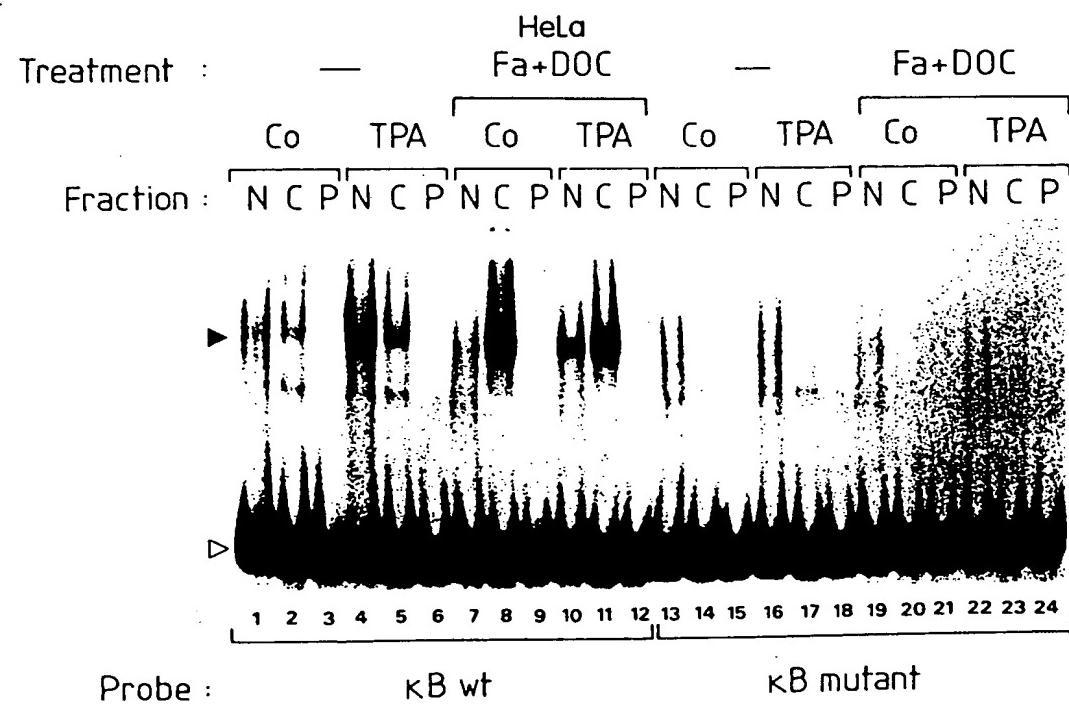


Fig. 33

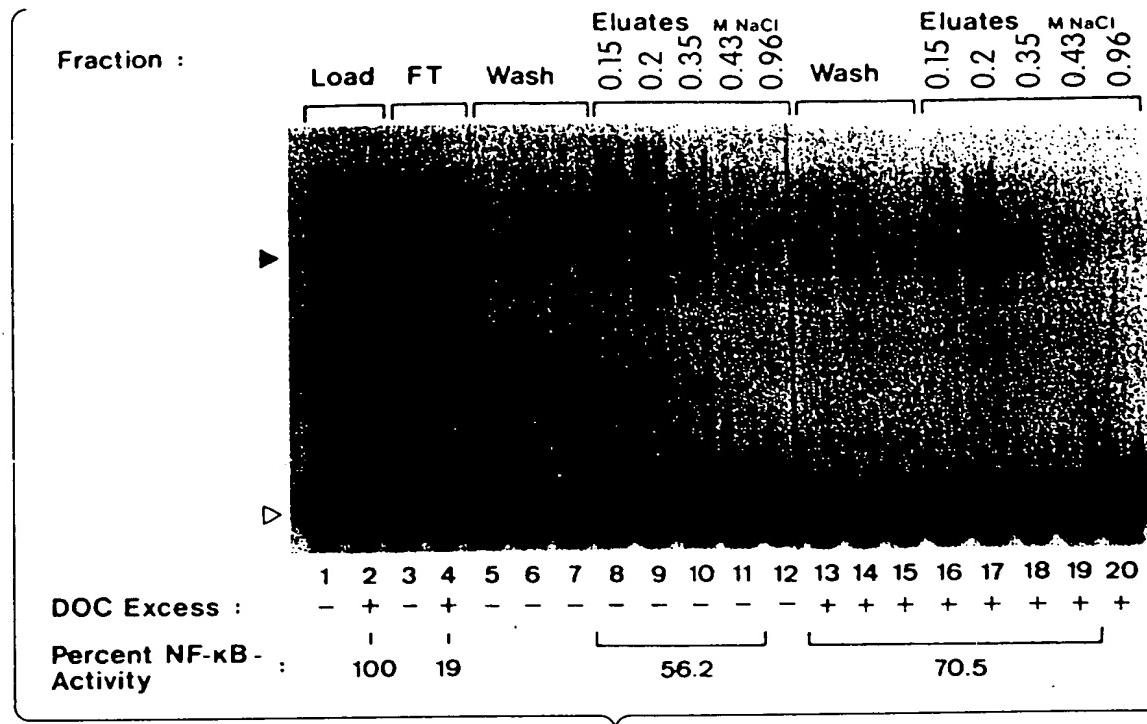


Fig. 34A

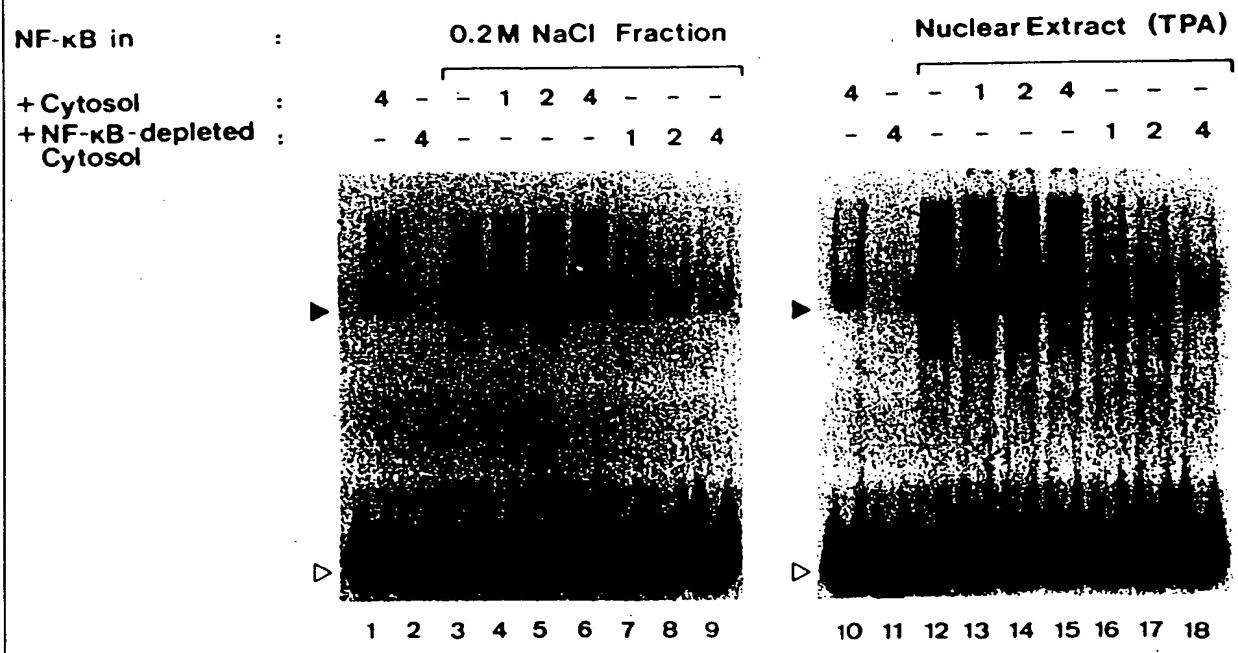


Fig. 34B

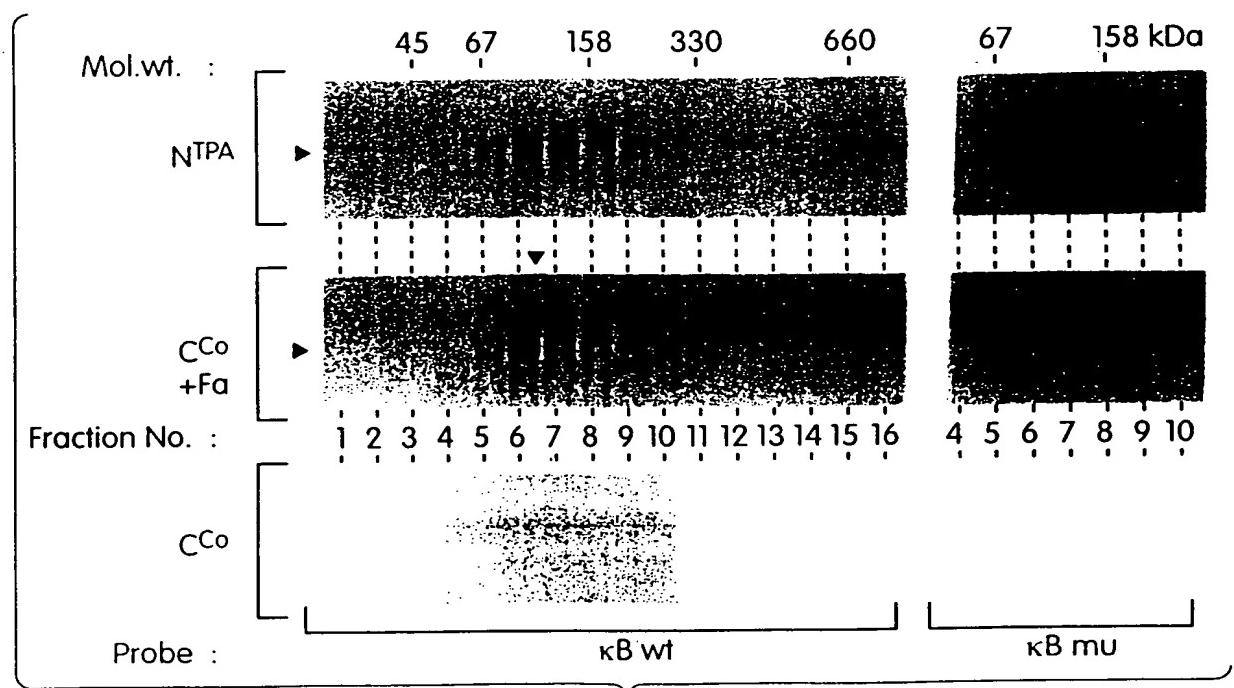
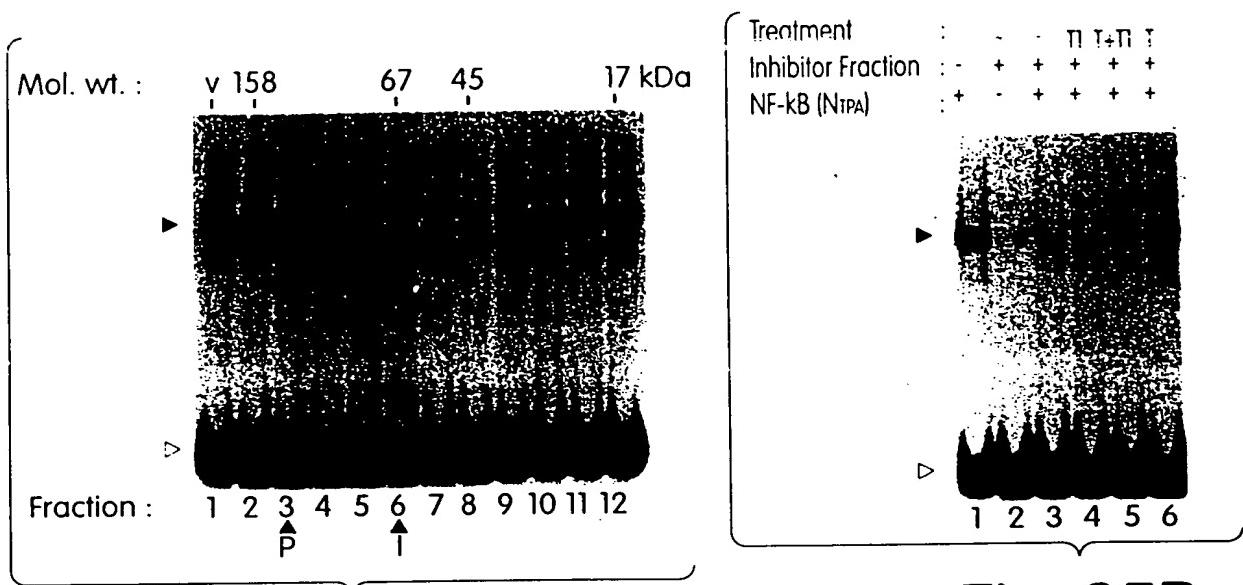


Fig. 35C

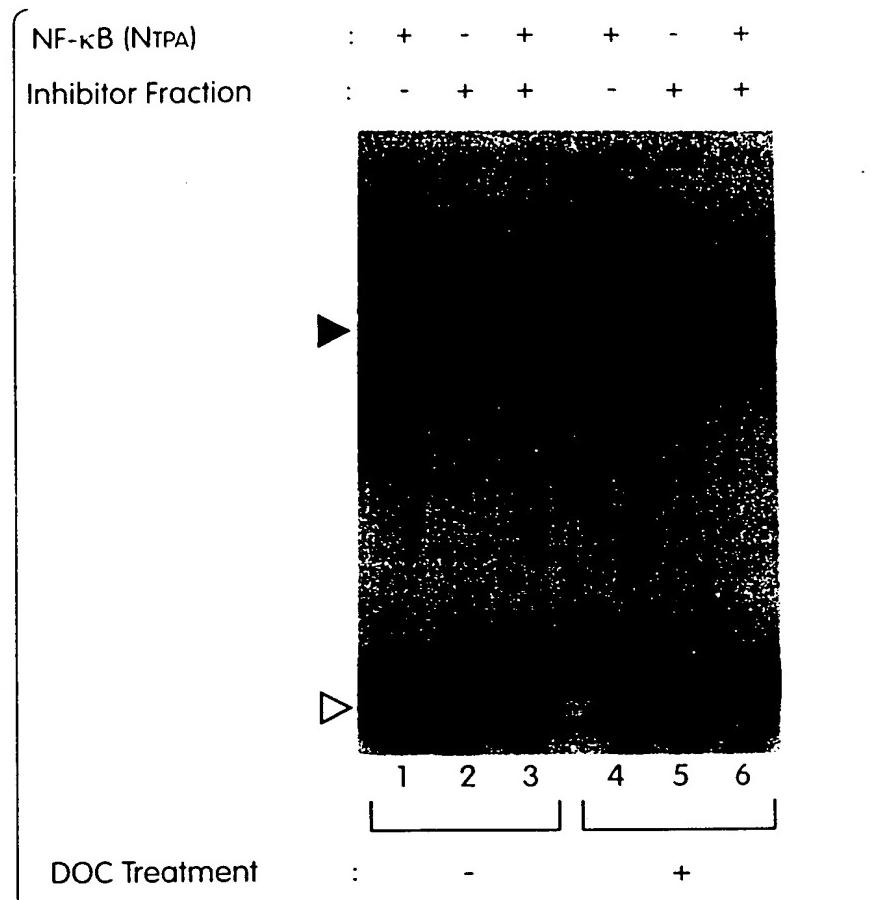


Fig. 36A

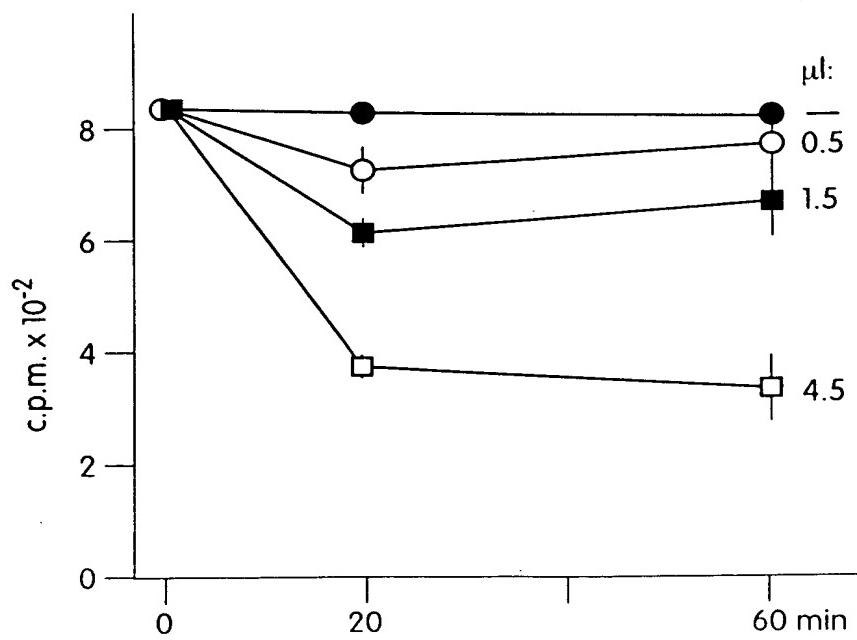


Fig. 36B

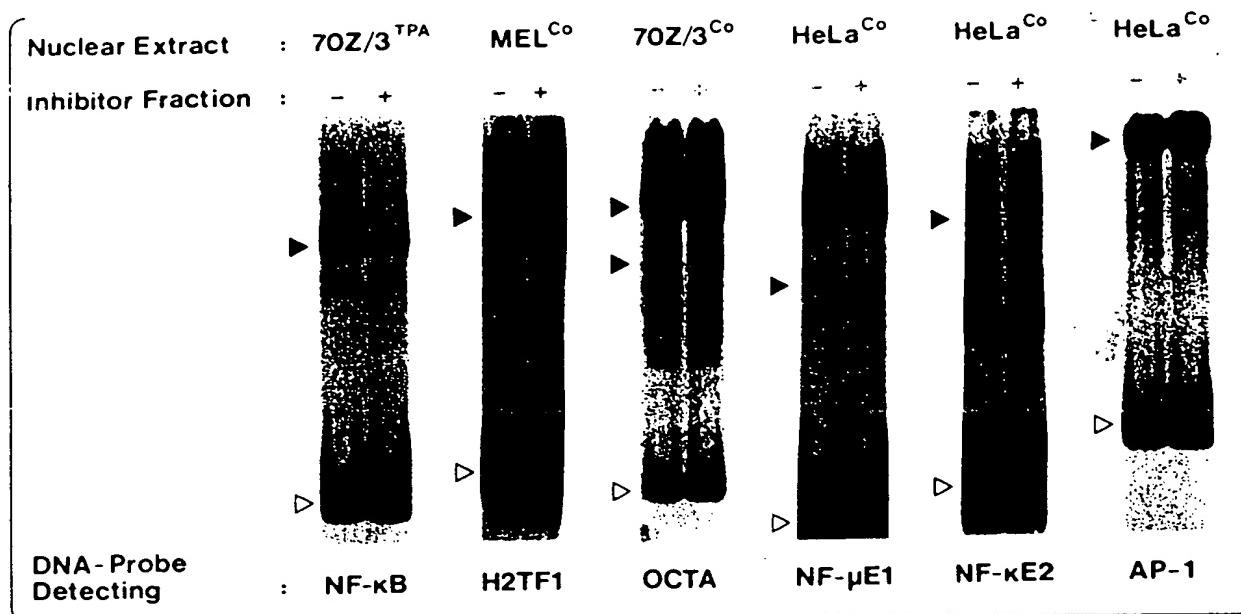


Fig. 37A

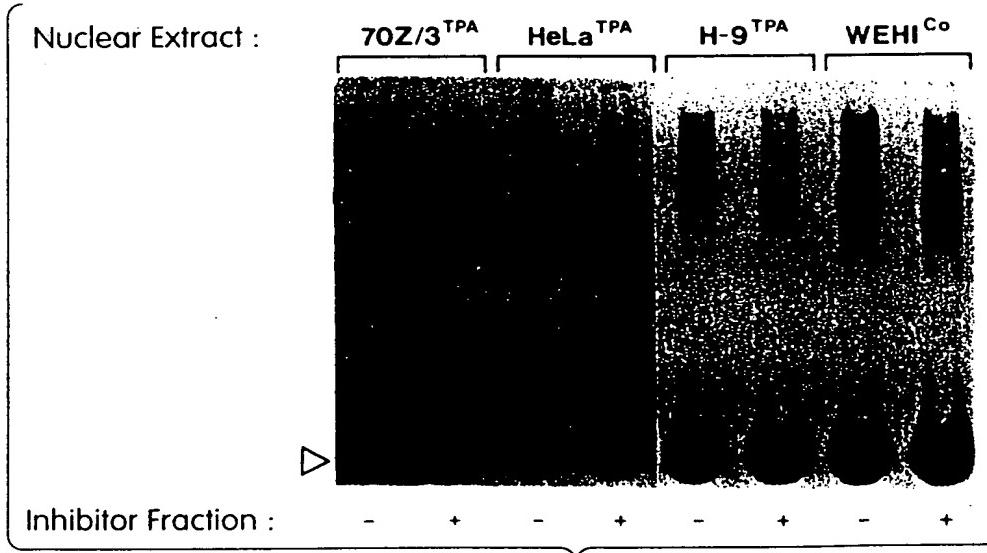


Fig. 37B

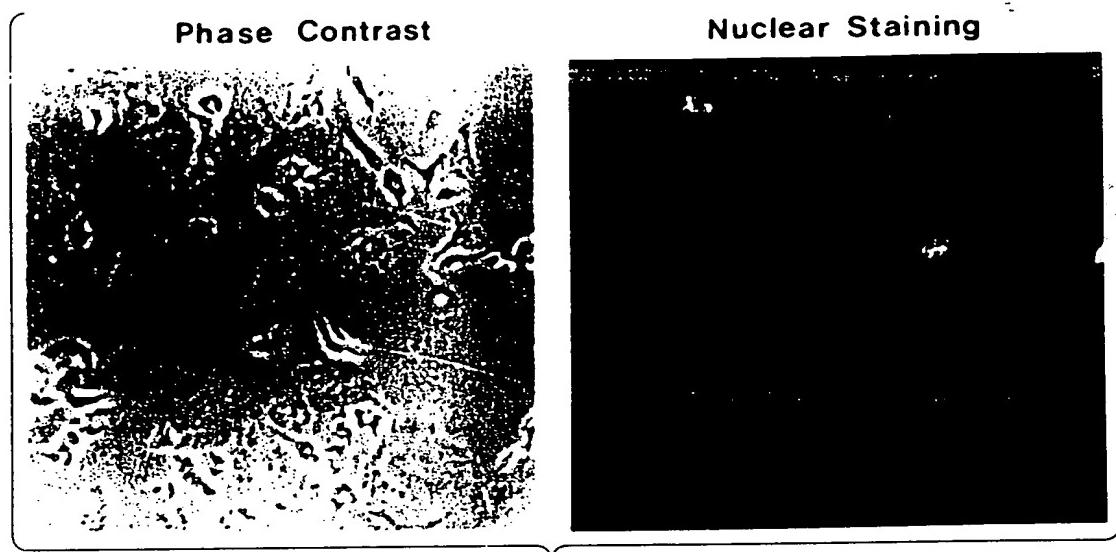


Fig. 38A

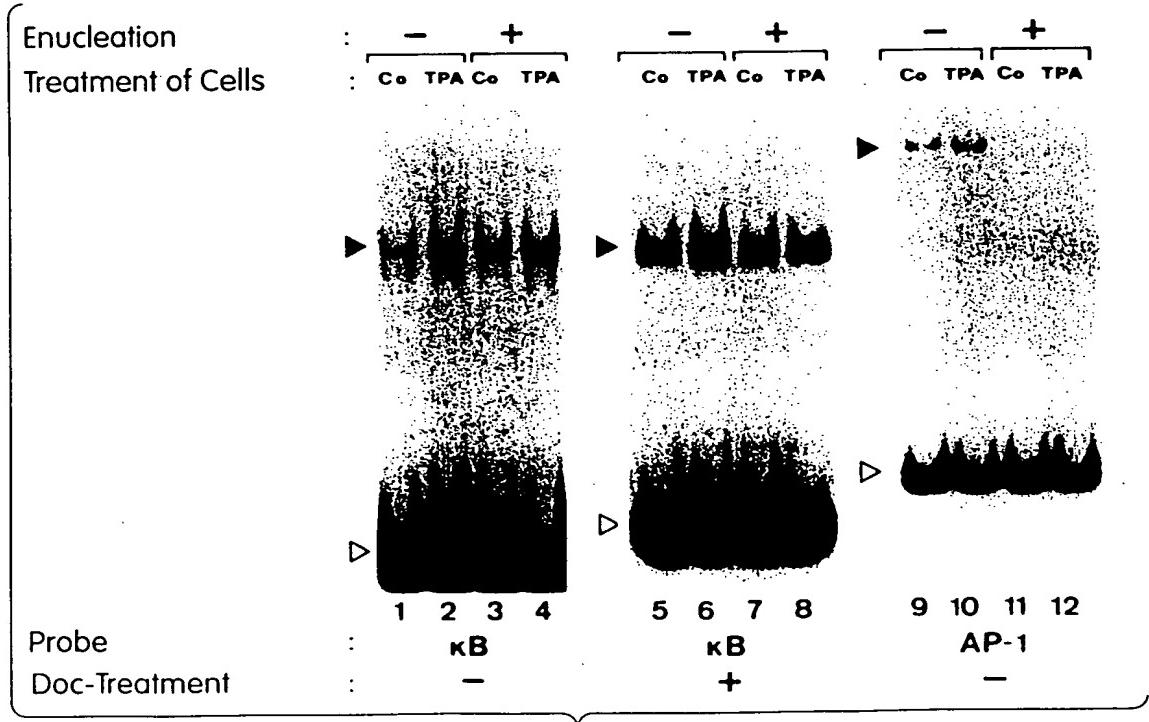


Fig. 38B

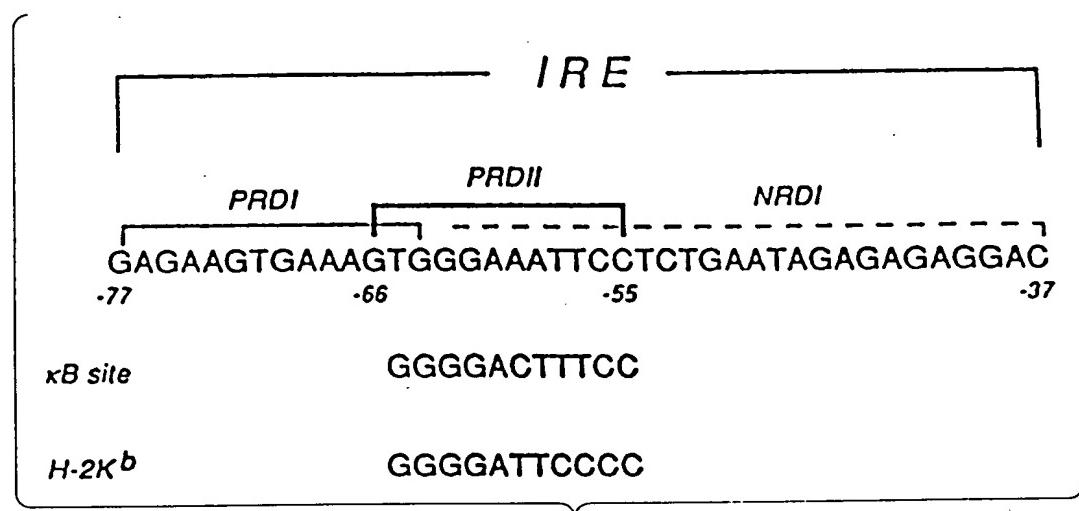
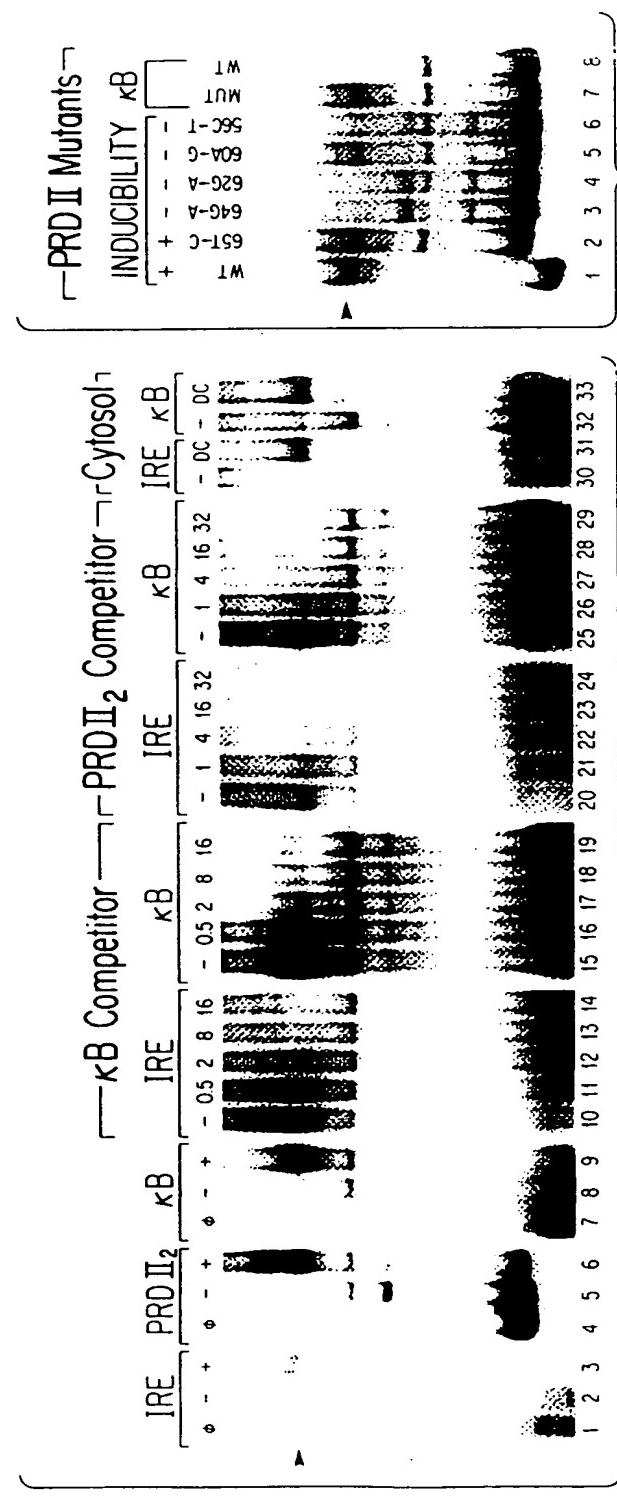


Fig. 39



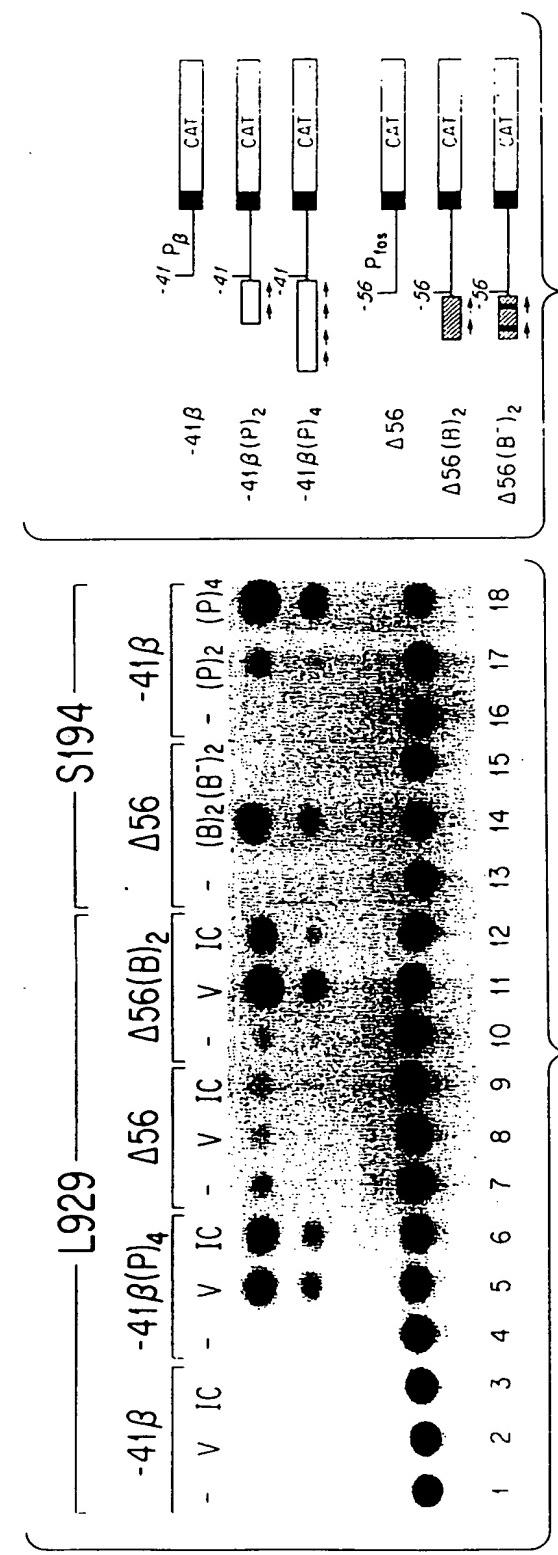


Fig. 41A

Fig. 41B

COPY OF PAPERS
ORIGINALLY FILED

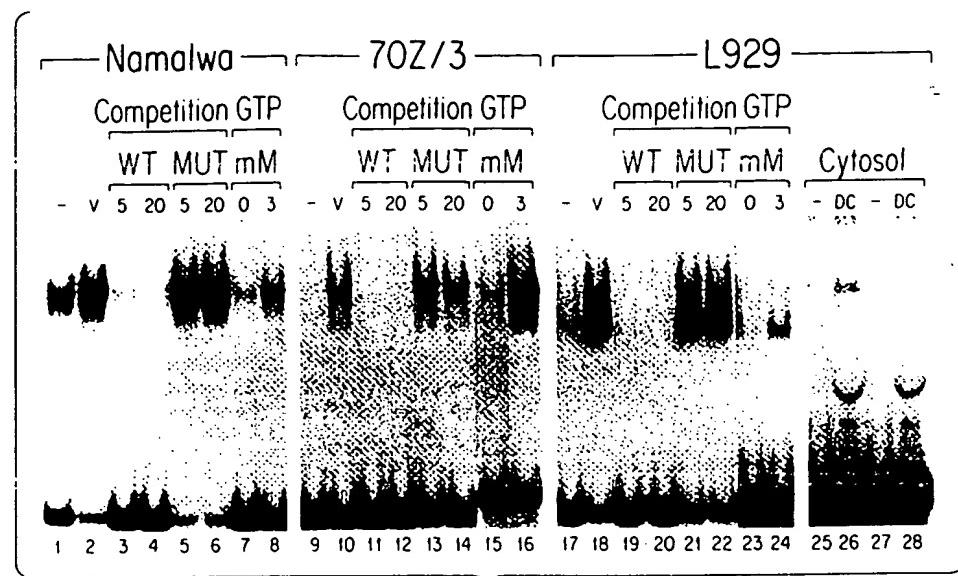


Fig. 42A

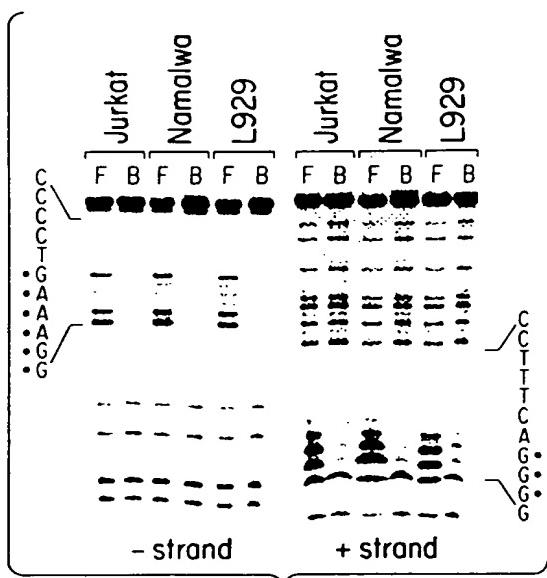


Fig. 42B

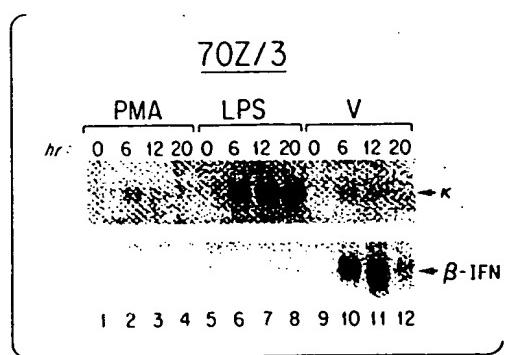


Fig. 42C

Figure 43

AACATTGCAACCTTATAAAATTAACTATTTCGACAATGCCGCAGAAGGAAATTCTGTGTTAGGTGCTGGTGGG
 AAAACACTATCTCCAGCTTGTAGGTTGAGCATACCAGAACCTTGATGAAATCACACACAGAACAAAGTAGAGG
 AGGCAACTGTGAATCGTGGGCTATAAGCCATCAAGGGATCTGATGAAAGAACCGGAGACGAACCCCCCACC
 CCCAACAAACAGGATCGGCACCCCAGAGTTAACAAAGTGGCTGACTTTGTTAAAACACTACGTGGAACCCATAGTC
 CCGGATCAGTAGTTGCACAGCCCCCTCCCGACAGAACTACACCGCTGTTGCTGATCCTGGCCACCCATGCTCT
 CCTCCAGGCCCCCGTTCTGCTCCTCTGTCCTGCGGCTGGATTGAACCGCACACAAGTCTGCATCTGGCACGAA
 TTCTCATGGACCCACGTCACTGAGGTACGGTACCTGGTACGGTACGGTACGGTACGGTACGGTACGGTACGGT
 GCTCGGTGGAAAGTCTGGATAGTAGTACCTCCCCTCTGCCACAAAGCAGGCCCTCACATTCAAAAGTCTGAGT
 CAGGTCTATTGAGTTCTCTTCAGGGAGGCCCTTGTCAAACACACCTGGAGGGGGAGTCTCACCTCTCCCCAGC
 AACTCAGATCAGTGCCTTATTATAATGCTCCGGCCAATCCTGAGGTGCTGGTTGGGTGCTGCTGGCTGGCTGG
 TGAACCTCCCCCTCCCCAACGGCCCTGGCATTTGCAATTAAAACACTGGGATTCAAGGGCCAAATTCAAGGCCA
 GAGTGAGCAGTAGGATGGAGCTAACAGAGAGTGCACCTGCACTGGCTGAACCCAGCCTGAATTGGTTCACCCAGAG
 ACTACAAGTCAGAAAGGCATGTTAGAAAGAGGCATGCTAACAGAGAGGATCATAGAGATGTGAACCAATTCGCT
 GCACAGTGGGAAGGGCTGGACAGAGAAGGAAGGAAACTCTTGAAGACCCGGTTGGTACCAAGGGTTAGAGTTAC
 TCTGGTATACTACATGTTAACTCTGAAAGACCCGGTTAGCCAGGGCCAAAGGGTTAGATTCTGCCAGGTATA
 ATTAACACAAACCAGAGGAACCTGAGGTTATGACCCCCCCCCCAAAGGTAGATTCTGCCAGGTATA
 M T P P P K V R F L P S I

 AAGGGGGGGAAAGGGGGGGCCTGGTTCATTTCCCTTCACTGTGTGACCGAACGTTGCTTTATTGTAAACA
 K G G E G G P W F I S L H C V T E V L L F V N I

 TCTTGAAATTACCCGTCGTTTCCAGTCTCATCGTGTGTCAGGCCACTGGAGGGAAATTCCCCGTCTCGGAAC
 L N Y P S F S L H R A V V R P L E G I P R L G T

 GCCGCCAGCACCAGCCGGCGCCGGCGCCAGCTCAGGCCCATGCTCAGGCCACCCGGCCCCACCGCCCCGGC
 P P P A P A A P R R P A S S A M L S A H R P A

Figure 43 (continued)

GAGCCGCCGGCTGGAGGGCTGGAGCCAAAGGCAACGGCAAGGGCTGGAGCCGGCGGCC
E P P A V E G C E P P R K E R Q G G L L P P D D R H

 ACGACAGGGCTGGACTCCATGAAGGAGGAGTACAGGCAGCTGGAGGACATCCGGCTGCA
D S G I D S M K E E Y R Q L V R E L E D I R L Q

 GCCCGCGAGCCCCGGCCGCACGGCCTGGCCCAGCAGCTCACCGAGGACGGGACACTTTCTCCACTTG
P R E P P A R P H A W A Q Q L T E D G D T F L H L

 GCGATCATTACGAGGAAAGGCCCTGAGCCTGGAGGTGATCCGGCAGGGCGCTGGGACGGCCTCCGA
A I H E E K A L S L E V I R Q A A G D A A F L N F

 Ank. I
 TCCAGAACCTCAGCCAGACTCCGCTCCACCTGGGGTGAATCACGGACCAGGCCGA
Q N N L S Q T P L H L A V I T D Q A E I A E H L L

 Ank. II
 TCCAGAACCTCAGCCAGACTCCGCTCCACCTGGGGTGAATCACGGACCAGGCCGA
Q N N L S Q T P L H L A V I T D Q A E I A E H L L

 Ank. III
 GAAGGCTGGGACCTGGATGTCAAGGACTTCCTGGGAACACCCCGCTCCACATGCC
K A G C D L D V R D F R G N T P L H I A C Q Q G S

 CTCCGGCAGGTCAAGTGTCTCACGCCACTGGCAACCTCCCTGGCTGGCAGGCCACCA
L R S V S V L T Q H C Q P H H L A V L Q A T N Y N

 Ank. IV
 ACGGCCATACATGGCATCTTCAAGGATACTTCAAGGATACCTGGCTGGCTGAATA
G H T C L H L A S I Q G Y L A V V E Y L L S L G A

 AGATGTAATGCTCAGGAGCCATGCAATGGGAGAACAGGCAACTACACTGGCC
D V N A Q E P C N G R T A L H L A V D L Q N S D L

Ank. V

COPY OF PAPERS
ORIGINALLY FILED

Figure 43 (continued)

<pre> GTGTCACCTCTGGTGAACACGGCCAGATGTGAACAAAGTGACCTACCAGGGCTACTCCCCATACCA3CTTACAT V S L L V K H G P D V N K V T Y Q G Y S P Y Q L T W </pre>	<pre> GGCAGAGACAACGCCAGCATACAGGAGCAGCTGAAGCTGACACAGGCTGACAGATACTGCAGATACTGCACCGAAAGT A E T T P A Y R S S 354 </pre>	<pre> GAGGATGAGGAGCAGTGAATCAGAGCCAGAGTTCACAGAGGATGAACCTATGTATGACTGCTGTATTGGAG GAAGACAGCTGACATTAAAGCAGAGGTTCTGTGAGAAGTGACTGTGTACATATGTATAGGAAAAAGCCTGA CTTCTCTCATTAAAAGAAAGTCTATACTCGAAGGGAAAAAGTACTGAGATACTACACTGCCAGCCAGGAGC ACATCATGCTAACAGGTTCCATGCTGACCTGTACTTAAGTAACGGGATGGATGGATGTAAACATCGTTAAGAGATC AGTGAACATGCACACCACATCTGATAAAAGGCCACGTTATCTAAATTCTCTGCCACATGAGGATAACGGACTGCACGT CCAATGTGCTGTTGTCAAGAAATGGCTTGAAGGCTGCCTGCACAAACGTTCCCACATCTGCTGAAGACTGTGAGGTTGGCATTAGGTTGAGGACTGCTGACTGCTCCCCCT CGGTGGCAAGACAGGCTTGCCTGACCTGGGTGAGGAGTCCGACCATGGGAGAGGTGACCTGGCTGGAGG GTGCCCTGCTCCCTGACCCCTGGCTGCTCAGGGTTGAGGAGTCCGACCATGGGAGAGGTGACCTGGCTGGAGG AAGGTAGCAATGATGTTAACCTGGCAATTGGAAACTGTGGTGTTCACACCATGTGTGTCAATAATTGCTACACTT TTAGCAACTGTATAAGAATGTAATACTGTACATCTTGTATAATTATTGTGAGATATGTATTAA TTAAAAAGGAGATTCTGTAAAAA </pre>
---	---	--